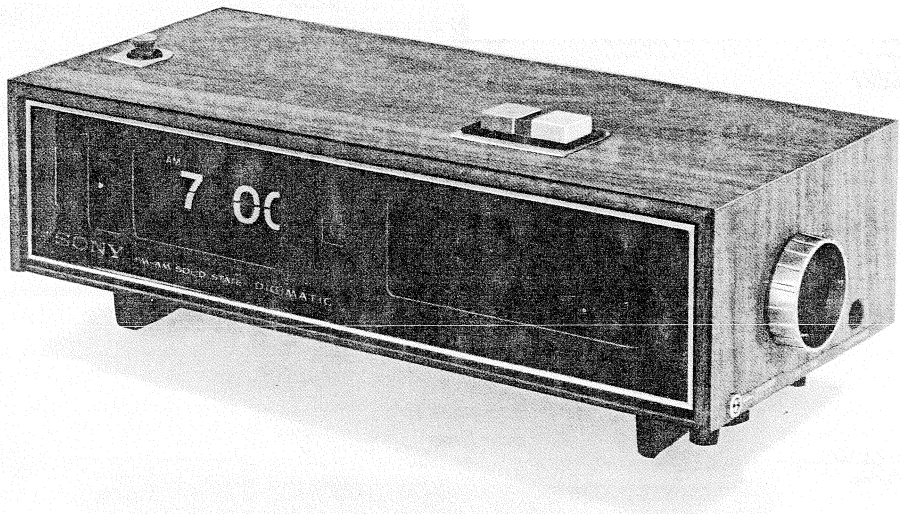
8FC-69WA

For 230V 50Hz

ISO

Set using ISO screw



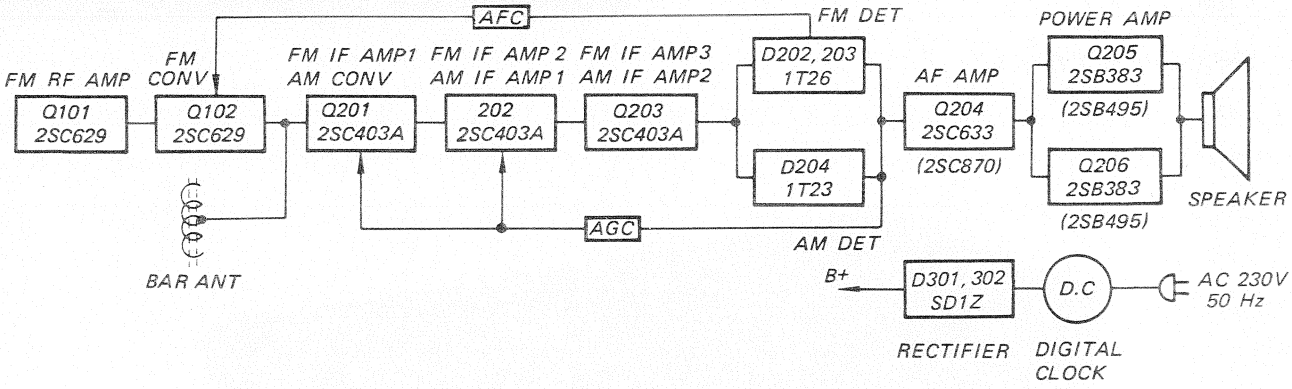
SPECIFICATIONS

Circuit System:	8-transistor 8-diode superheterodyne
Frequency Coverage:	FM 87~108MHz (3.44~2.78m)
	AM 530~1,605kHz (566~187m)
Intermediate Frequency:	FM 10.7MHz
	AM 455 kHz
Antenna System:	FM ac line antenna
	AM built-in ferrite bar antenna
Power Requirement:	AC 230V 50 Hz
Power Output:	500mW (10% distortion)
	850mW (maximum)
Power Consumption:	230V 5W
Maximum Sensitivity:	FM 5.6μV
(at 50mW output)	AM 80μV/m
Selectivity:	25dB
(10 kHz off-resonance at 1,400 kHz)	
Speaker:	3½" (90 mm), 8Ω
Dimensions:	11⅝" (W) x 3⅞" (H) x 5⅛" (D)
	(294 mm x 101 mm x 136 mm)
Weight:	3 lb 9 oz (1.65 kg)

SONY®

SERVICE MANUAL

BLOCK DIAGRAM



INTERIOR VIEW

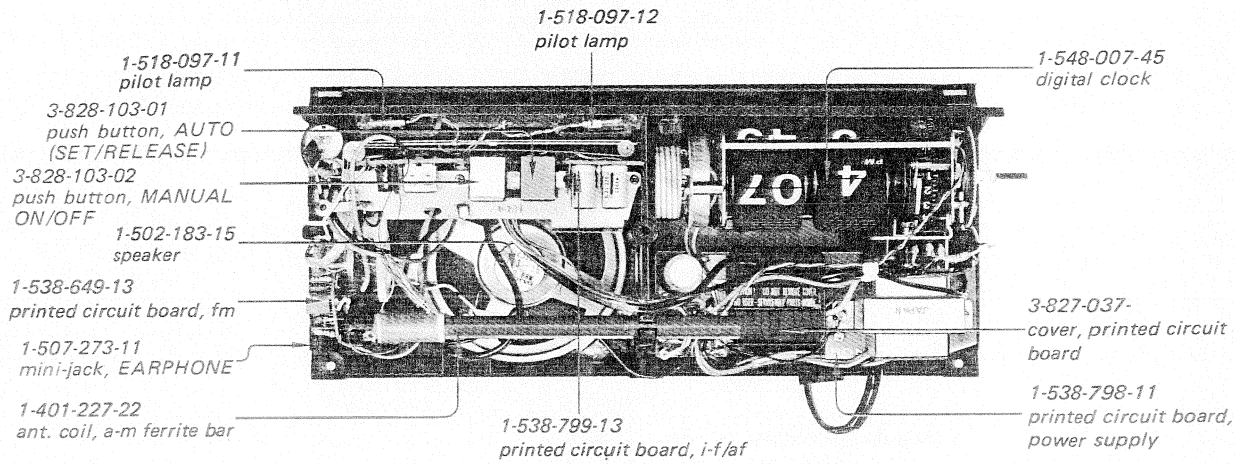


Fig. 1

CABINET UPPER REMOVAL

1. Pull out four knobs marked with ※ in Fig. 2-1.
2. Remove two screws marked with ○ in Fig. 2-1.

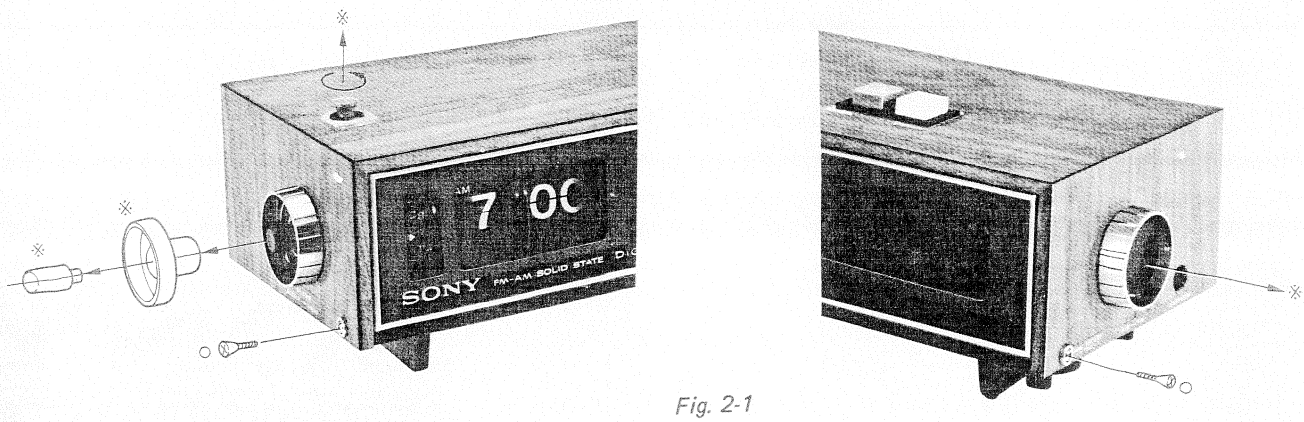


Fig. 2-1

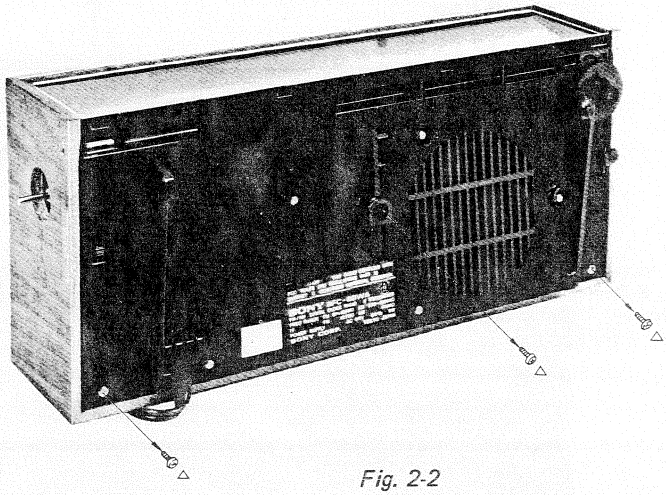


Fig. 2-2

3. Remove three screws marked with △ in Fig. 2-2.

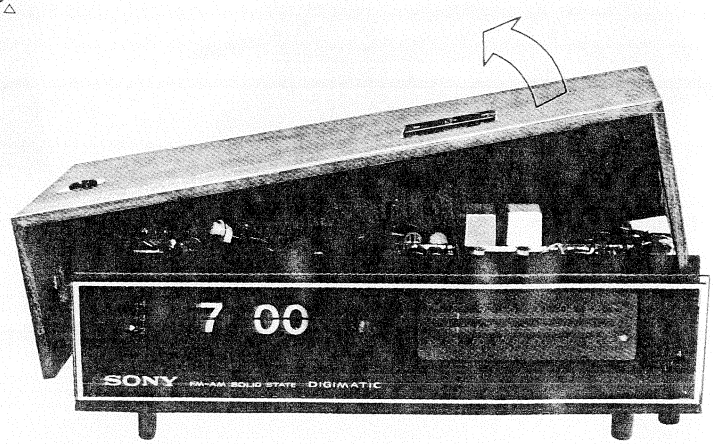


Fig. 2-3

4. Remove cabinet upper in the direction shown by the arrow in Fig. 2-3.

FM TUNER CIRCUIT BOARD REMOVAL

1. Remove a screw marked with ☆ in Fig. 3-1.
2. Unsolder three tinned copper wires at tuning capacitor shown in Fig. 3-1.
3. Unsolder a tuning capacitor terminal, marked with ○ in Fig. 3-2, at the printed circuit board.

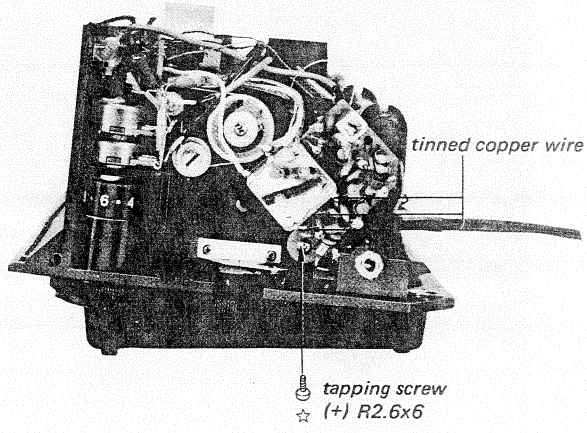


Fig. 3-1

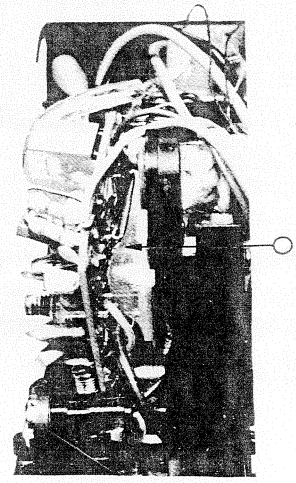


Fig. 3-2

IF/AF CIRCUIT BOARD REMOVAL

1. Unsolder a yellow lead wire at tuning capacitor shown in Fig. 4-1.

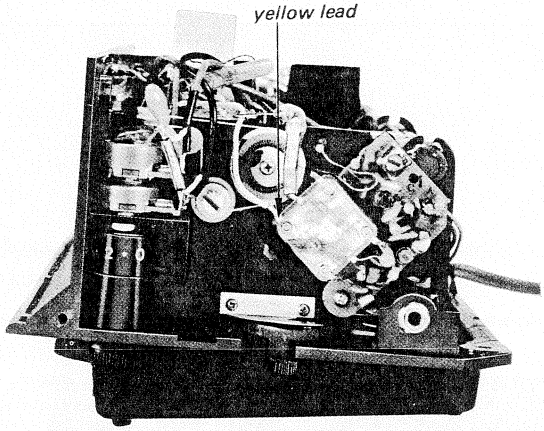


Fig. 4-1

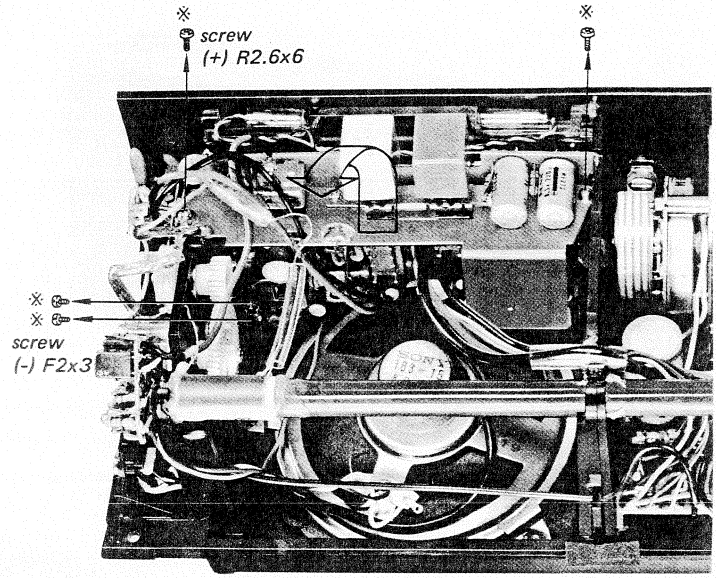


Fig. 4-2

2. Remove four screws marked with ※ in Fig. 4-2.
3. Remove the printed circuit board in the direction shown by the arrow in Fig. 4-2.

DIGITAL CLOCK REMOVAL

1. Unsolder two lead wires (white and brown) shown in Fig. 5-1 at the power supply circuit board.
2. Unsolder a white lead wire, a coaxial cable and a leg of capacitor C307 shown in Fig. 5-2.

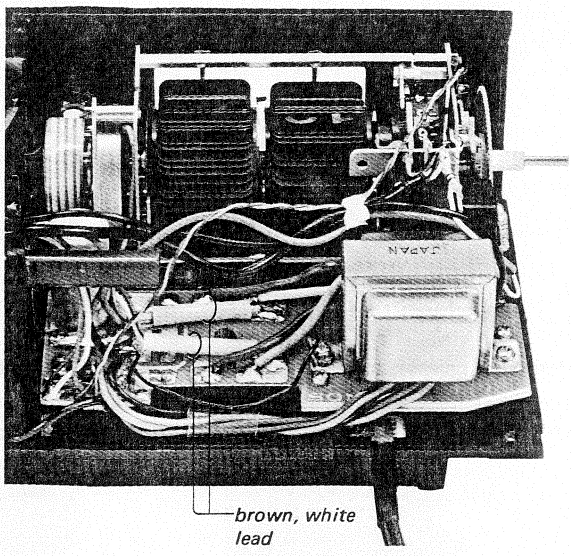


Fig. 5-1

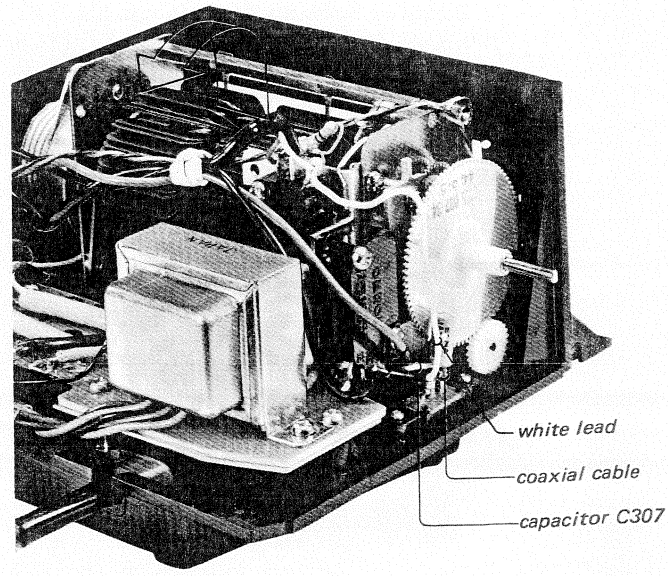


Fig. 5-2

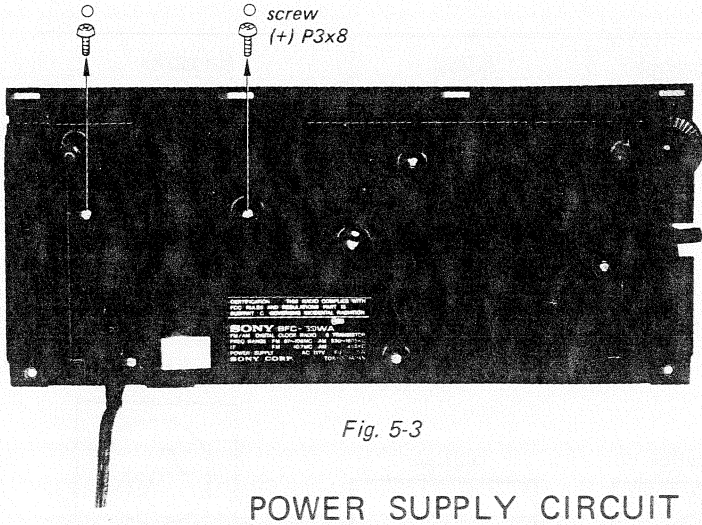


Fig. 5-3

3. Remove two screws marked with ○ in Fig. 5-3.
4. Remove digital clock in the direction shown by the arrow in Fig. 5-2.

POWER SUPPLY CIRCUIT BOARD REMOVAL

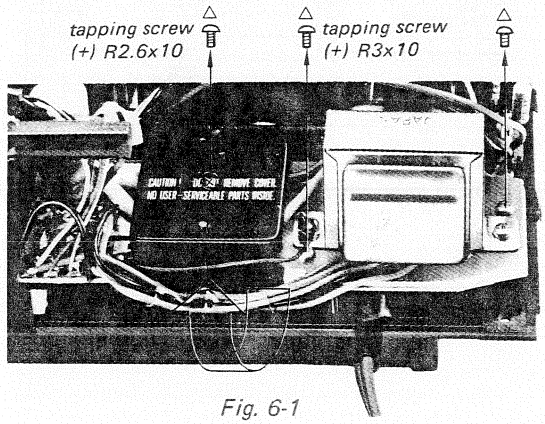
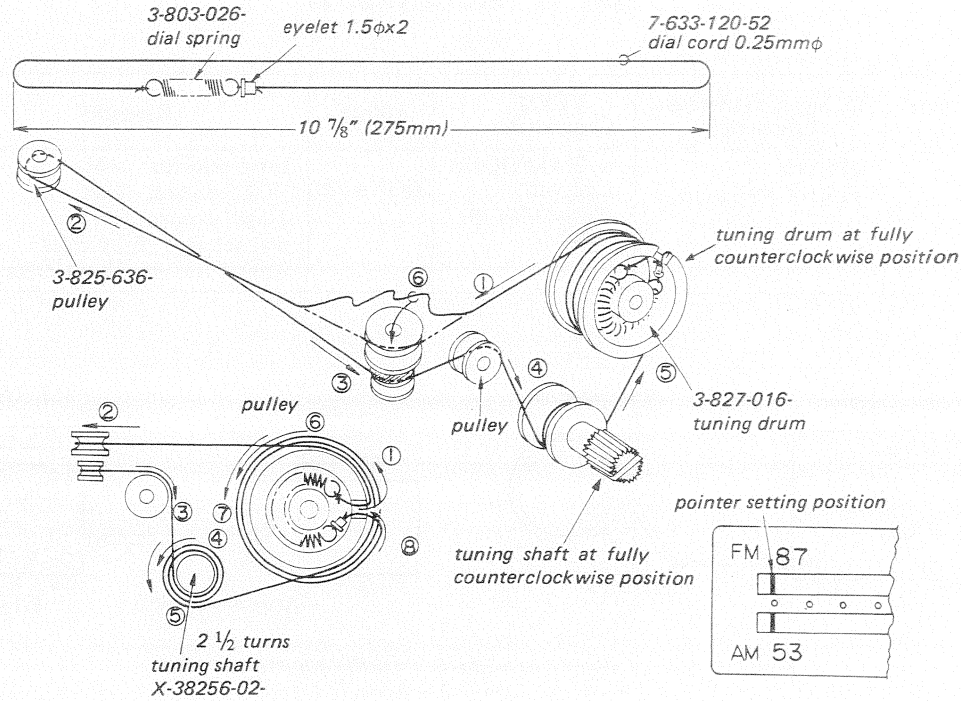


Fig. 6-1

1. Remove three screws marked with △ in Fig. 6-1.
2. Remove the printed circuit board in the direction shown by the arrow in Fig. 6-1.

DIAL CORD STRINGING



FM IF ALIGNMENT

Sweep Generator Connection	Sweep Generator Frequency	Oscilloscope Connection	Adjust	Remarks
See Fig. 7-1.	10.7 MHz at center	See Fig. 7-2.	IFT F101 F201 F202 F203 F204	band selector: FM Adjust for maximum amplitude and "S" curve on the scope shown in Fig. 7-3.

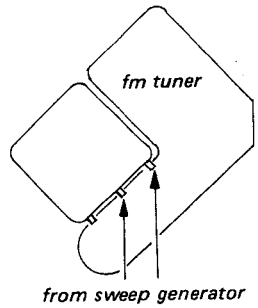


Fig. 7-1

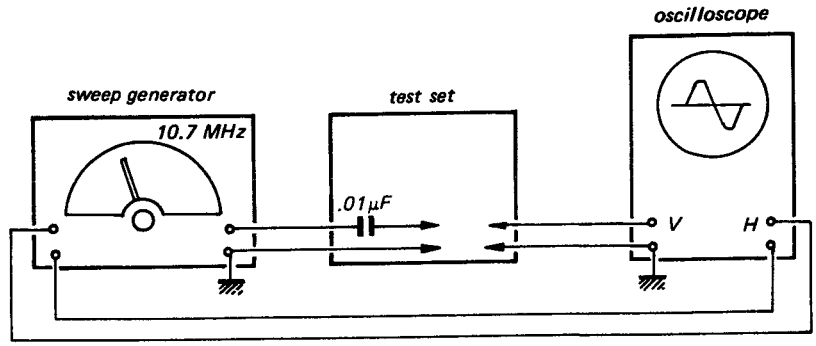


Fig. 7-3 Fm i-f alignment setup

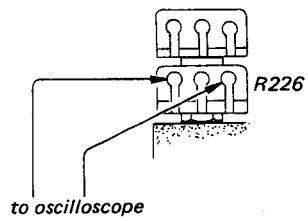


Fig. 7-2

AM IF ALIGNMENT

Rf Signal Generator Coupling	Rf Signal Generator Frequency	VTVM Connection	Adjust	Remarks
loop antenna See Fig. 7-4.	455 kHz (1 kHz 30% a-m)	to EARPHONE jack with 8Ω resistor in parallel	IFT A201	band selector: AM VOL control: max. TONE control: H dial setting: fully right Adjust for maximum meter reading.

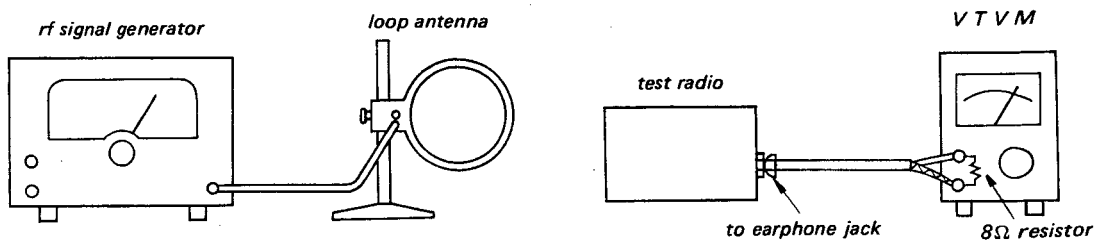


Fig. 7-4 A-m i-f alignment and a-m tracking adjustment setup

FREQUENCY COVERAGE AND TRACKING ADJUSTMENT

Adjustment Item	Rf Signal Generator Coupling	Rf Signal Generator Frequency	Receiver Dial Setting	VTVM Connection	Adjust	Remarks
Fm Freq. Coverage	0.01μF gen. set Unsolder the coaxial cable at power supply circuit board and connect the generator to the cable through 0.01 μF ceramic capacitor.	85.5 MHz (400 Hz, 22.5 kHz fm)	fully left	to EARPHONE jack with 8Ω resistor in parallel	fm osc coil L104	VOL control: max. TONE control: H band selector: FM Adjust for maximum meter reading.
		109.5 MHz („)	fully right		fm osc trimmer CT1-2	
Fm Tracking		85.5 MHz („)	tune to 85.5 MHz signal		fm rf coil L102	
		109.5 MHz („)	tune to 109.5 MHz signal		fm rf trimmer CT1-1	
A-m Freq. Coverage	loop antenna See Fig. 7-4.	520 kHz (1 kHz 30% a-m)	fully left		a-m osc coil L202	same as above except specified. band selector: AM
		1,680 kHz („)	fully right		a-m osc trimmer CT1-4	
A-m Tracking		620 kHz („)	tune to 620 kHz signal		a-m ant coil L201	
		1,400 kHz („)	tune to 1,400 kHz signal		a-m ant trimmer CT1-3	

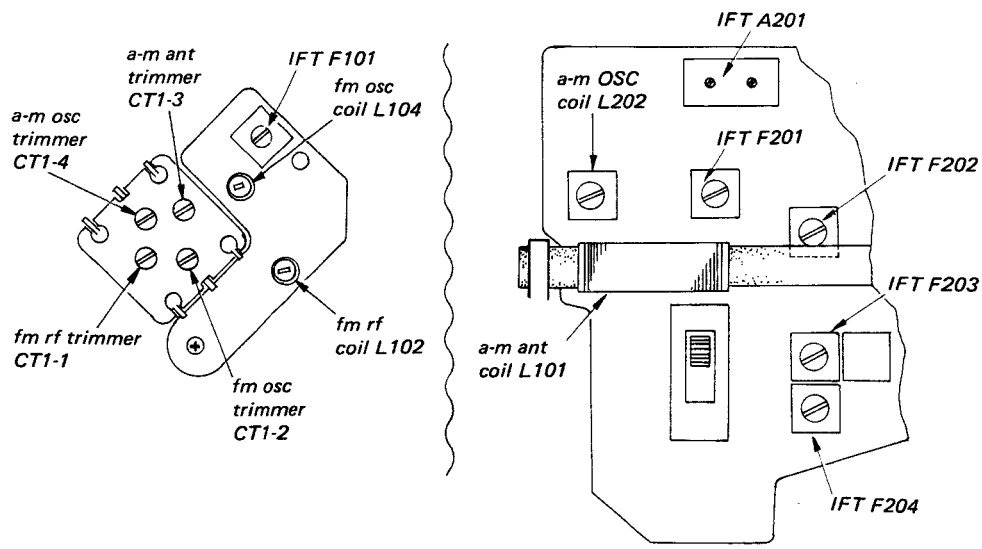
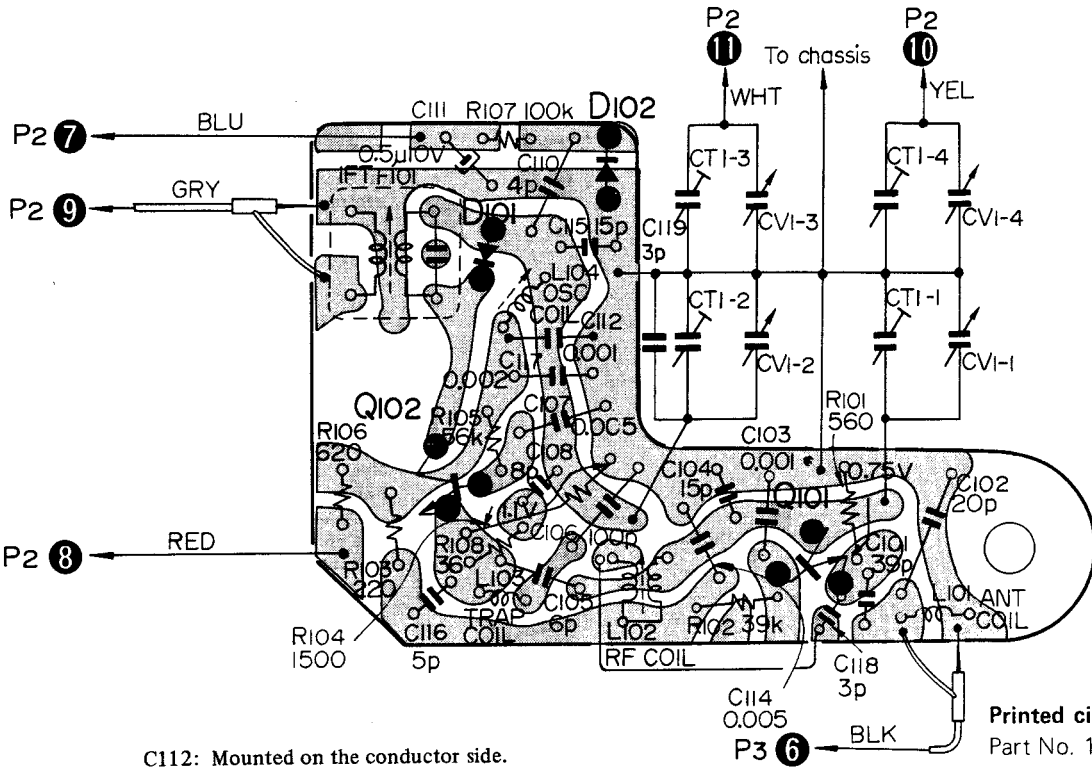


Fig. 7-5 Adjusting parts location

MOUNTING DIAGRAM

Fm Tuner Circuit Board P1

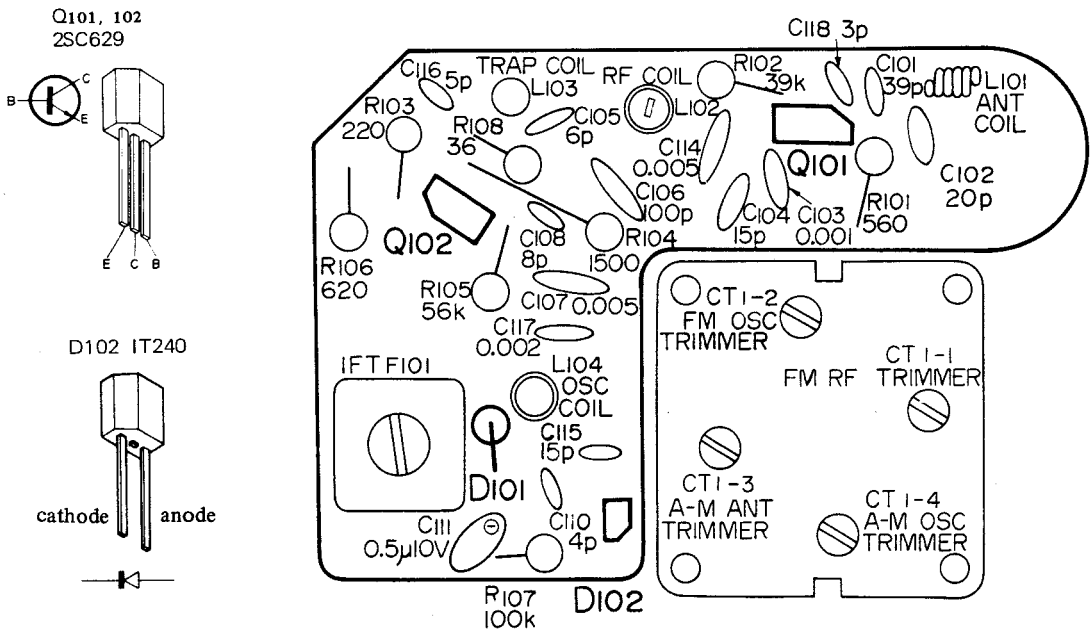
– Conductor side –



C112: Mounted on the conductor side.

Printed circuit board
Part No. 1-538-649-13

– Component side –

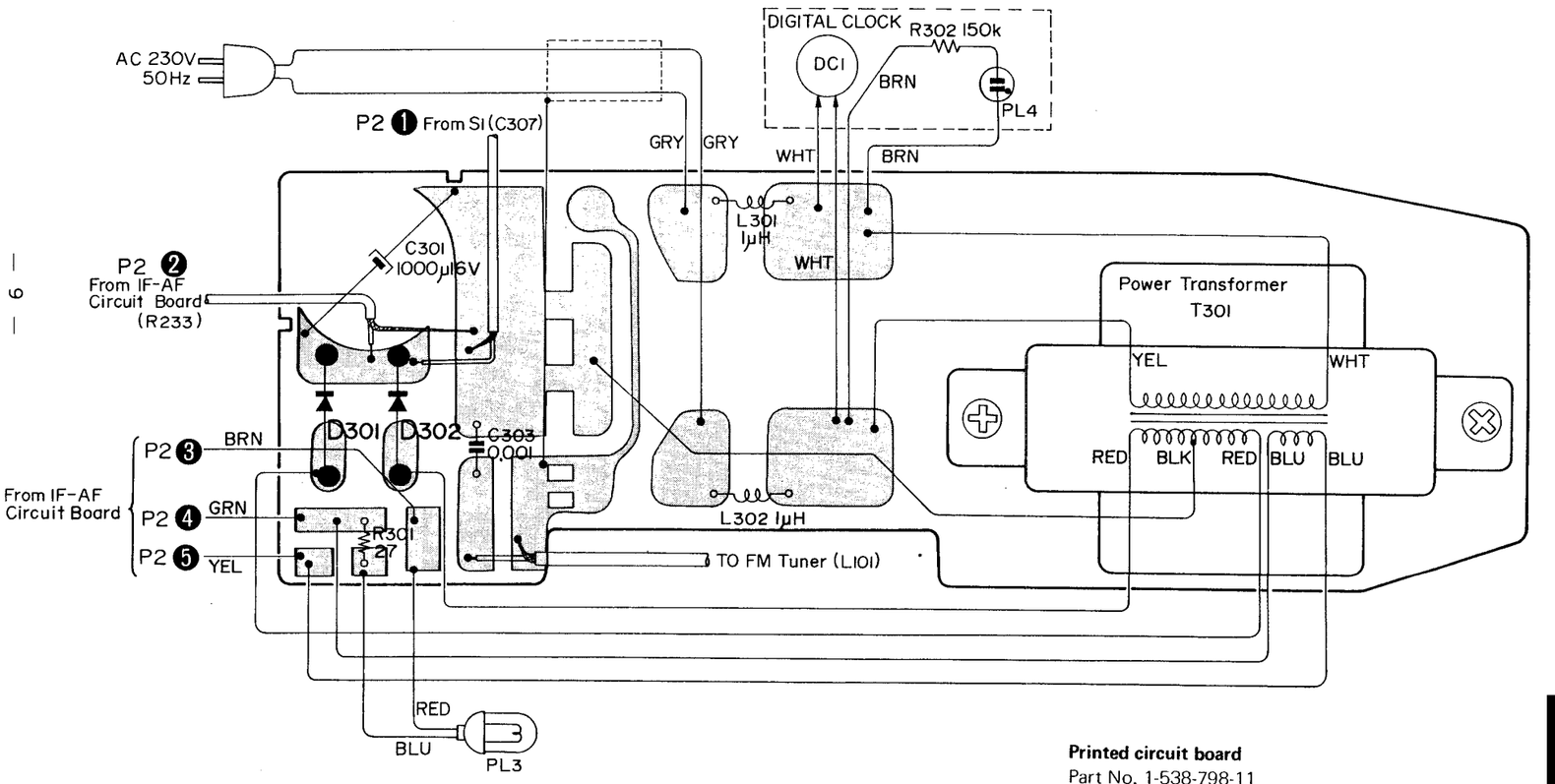


C112: Mounted on the conductor side.

MOUNTING DIAGRAM

Power Supply Circuit Board P 3

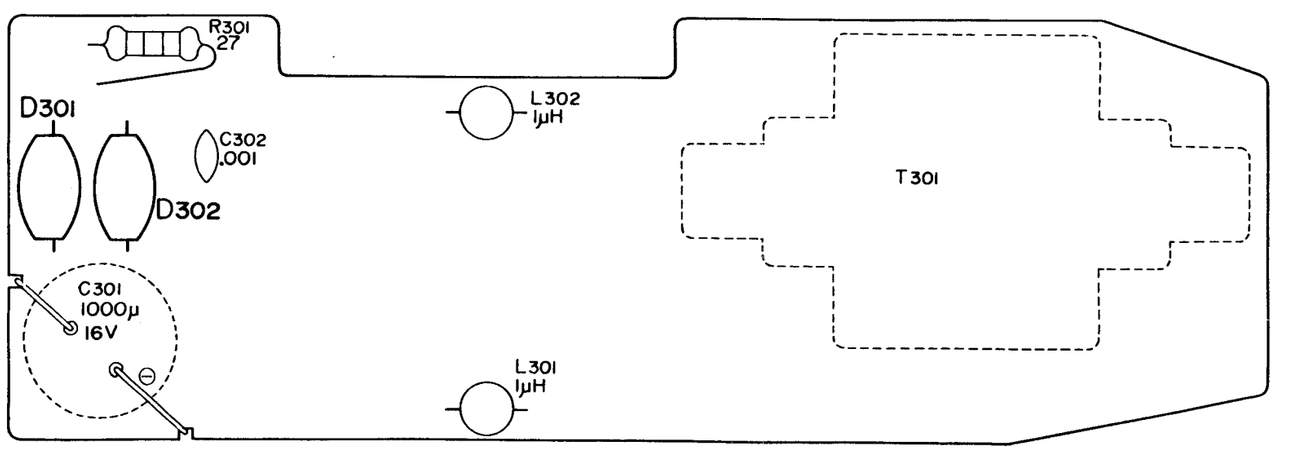
— Conductor side —



T301, C301: Mounted on the conductor side.

Printed circuit board
Part No. 1-538-798-11

— Component side—



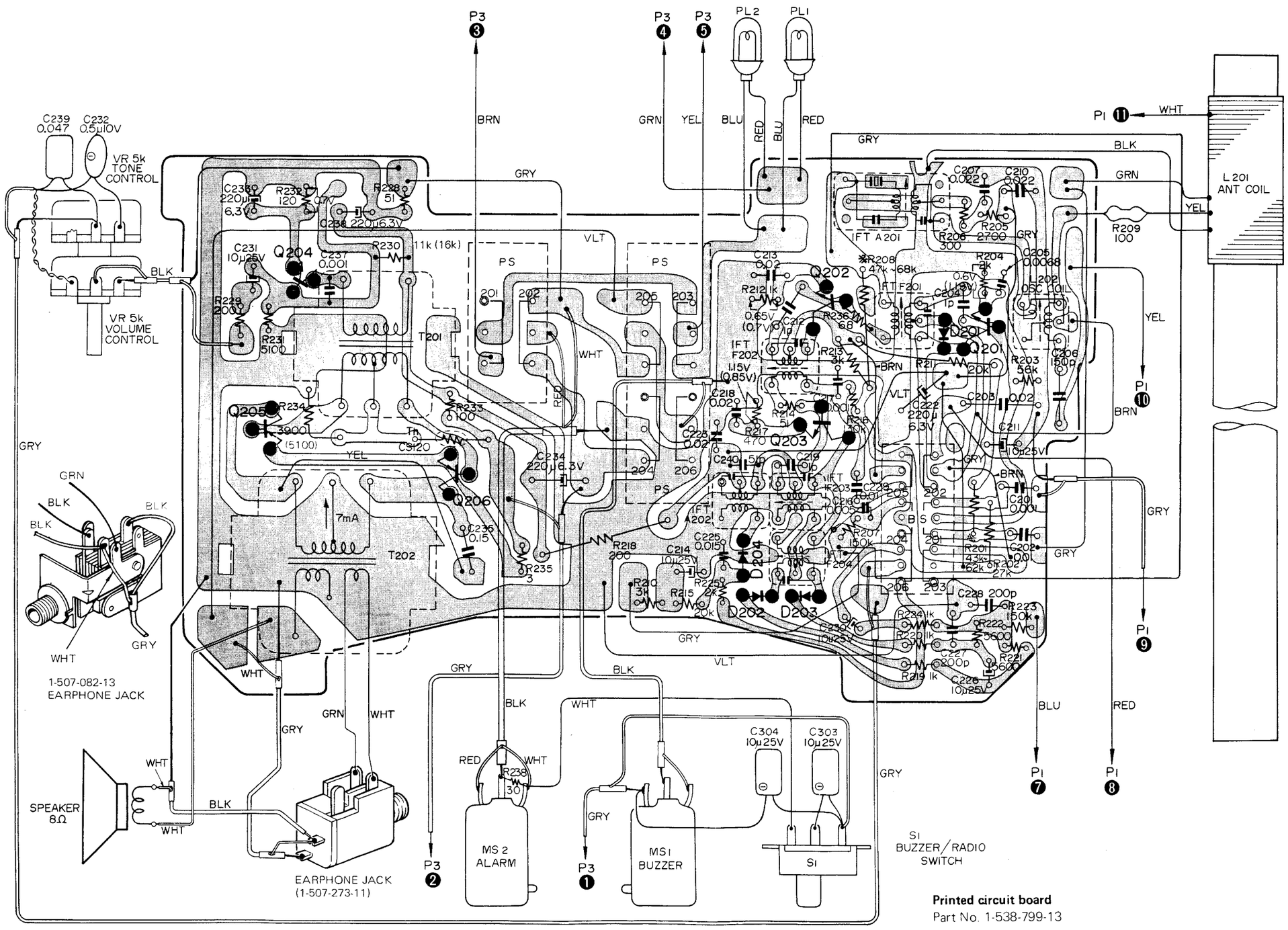
T301, C301: Mounted on the conductor side.

Printed Circuit Board
Part No. 1-538-798-11

MOUNTING DIAGRAM

— Conductor side —

IF/AF Circuit Board P2



R230, R236, C237, C240: Mounted on the conductor side.

SCHEMATIC DIAGRAM

Q101 2SC629 (FM RF AMP)

Q102 2SC629 (FM CONV)

Q201 2SC403A (FM IF AMP 1 / AM CONV)

Q202 2SC403A (FM IF AMP 2 / AM IF AMP 1)

Q203 2SC403A (FM IF AMP 3 / AM IF AMP 2)

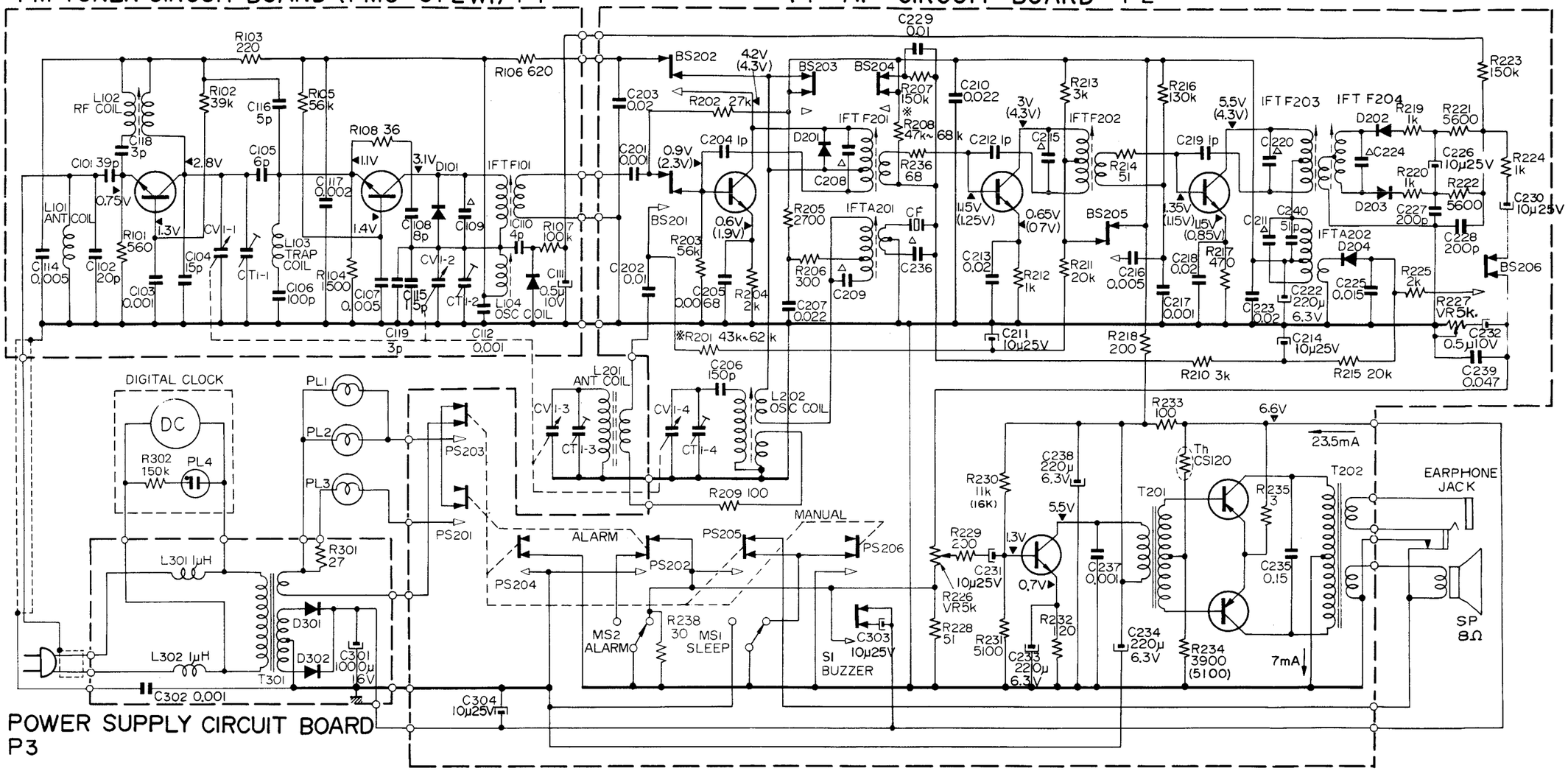
D101 IT26 (LIMITER)

D102 IT240 (AFC)

D201 IT26 (LIMITER)

D204 IT23 (AM DET)

D202, D203 IT26 (FM RATIO DET)



D301, D302 SD-1Z (RECTIFIER)

Q204 2SC633(2SC870) (AF AMP)

Q205, Q206 2SB383(2SB495) (POWER AMP)

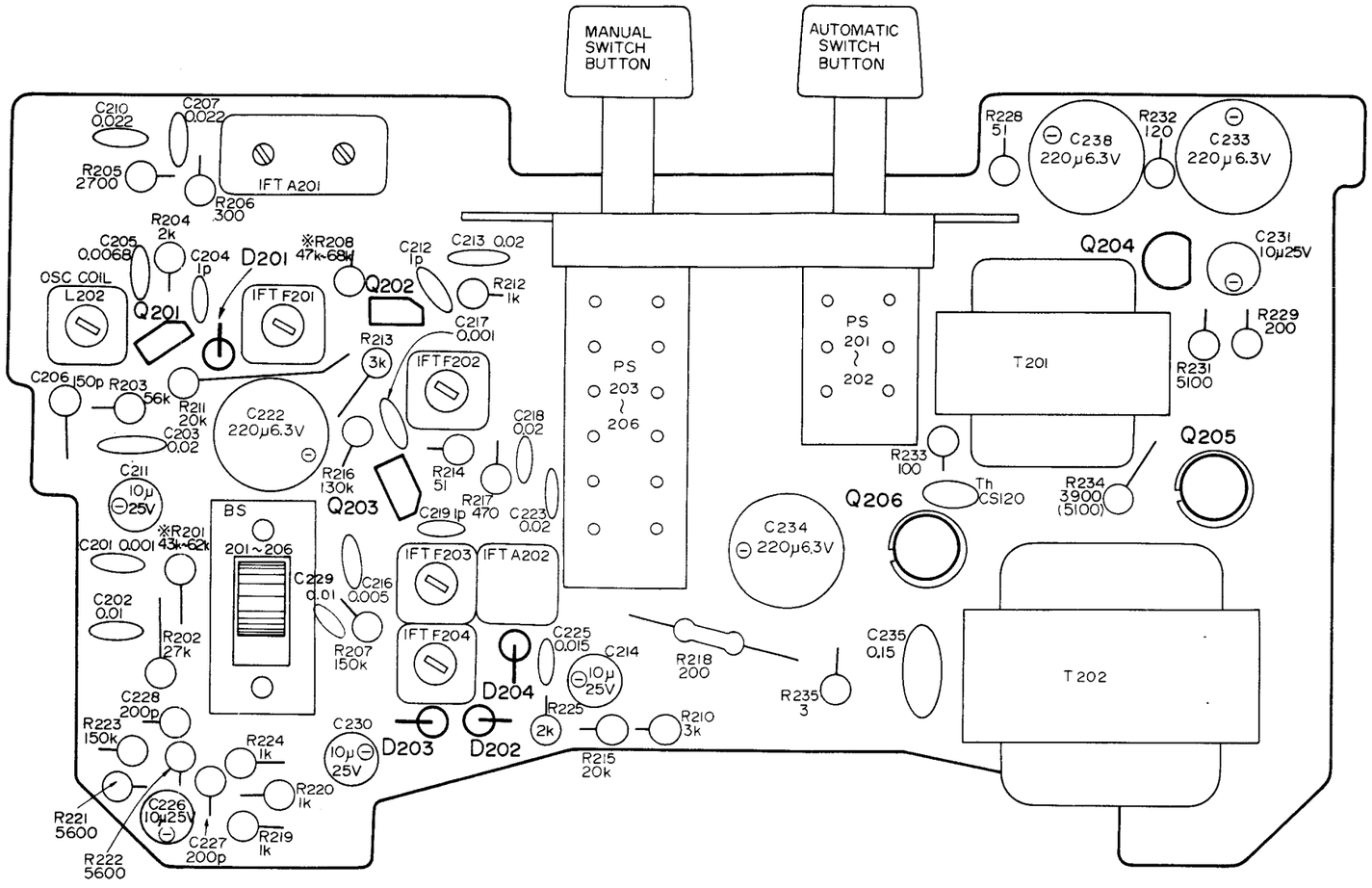
NOTE:

1. ⏚ shows grounding to chassis.
2. All resistors and capacitors are in Ω and μF, unless otherwise indicated.
3. Capacitor marked with △ is built in i-f transformer.
4. Resistor marked with ※ is selected in value.
5. Voltage value is measured to ground circuit with a dc voltmeter (20 kΩ/V) and current value is measured with a dc ammeter. Voltage and current values are taken with no radio signal received and the values shown in ( ) with band selector set to AM. Variations may be noted due to normal production tolerances.
6. Resistor values in ( ) of R230 and R234 are used when transistors Q204, Q205 and Q206 are 2SC870 and 2SB495.

MOUNTING DIAGRAM

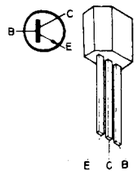
IF/AF Circuit Board P2

— Component side —

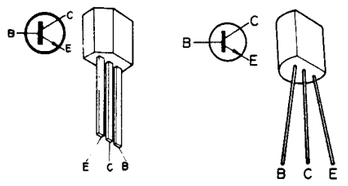


R230, R236, C237, C240: Mounted on the conductor side.

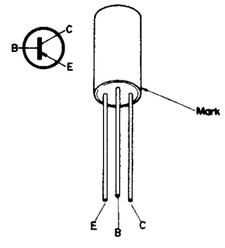
Q201-203
2SC403A



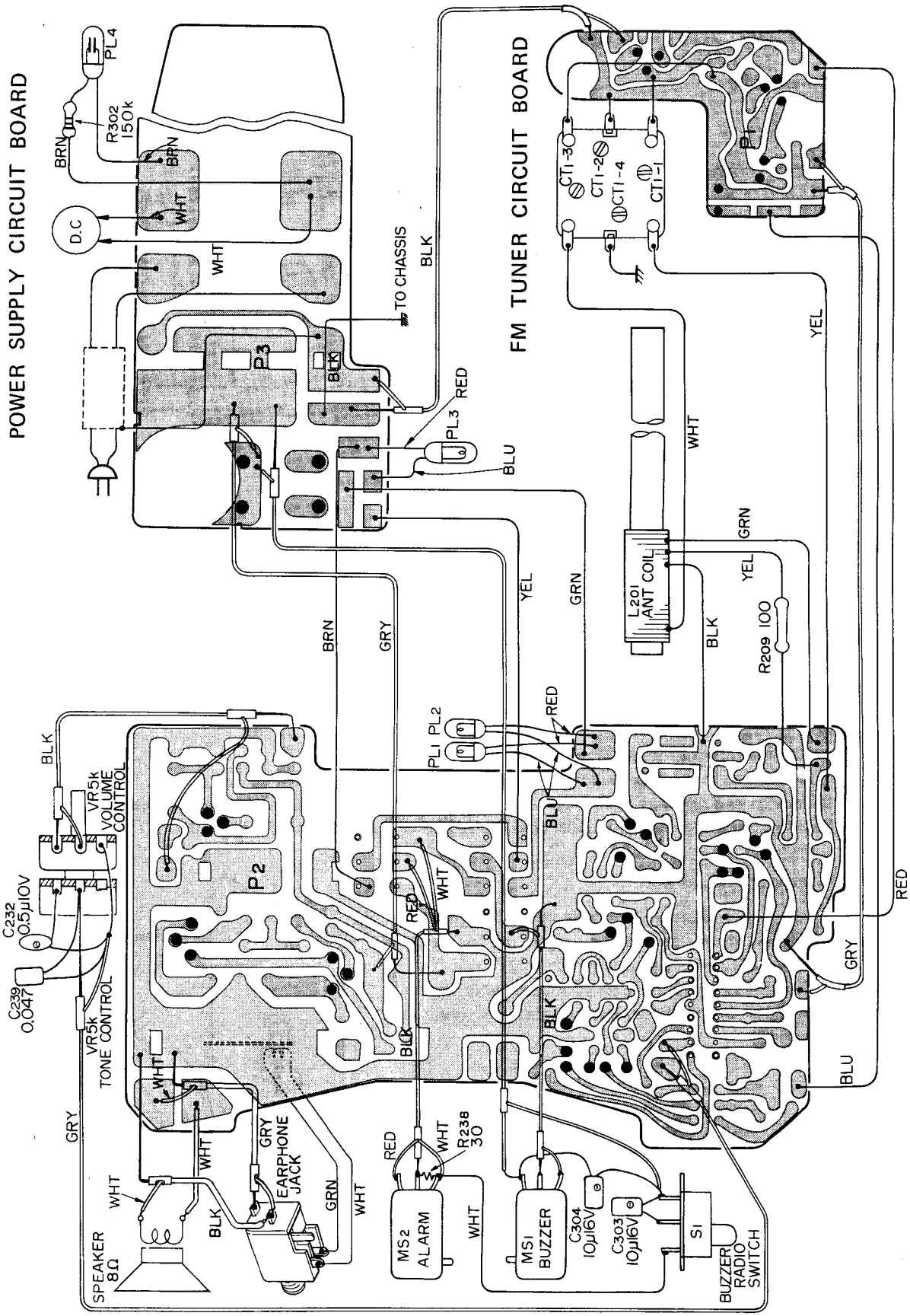
Q204
2SC633 (2SC870)



Q205, 206
2SB383 (2SB495)



WIRING DIAGRAM



DIGITAL CLOCK MAINTENANCE

1. Component Parts of Clock Assembly

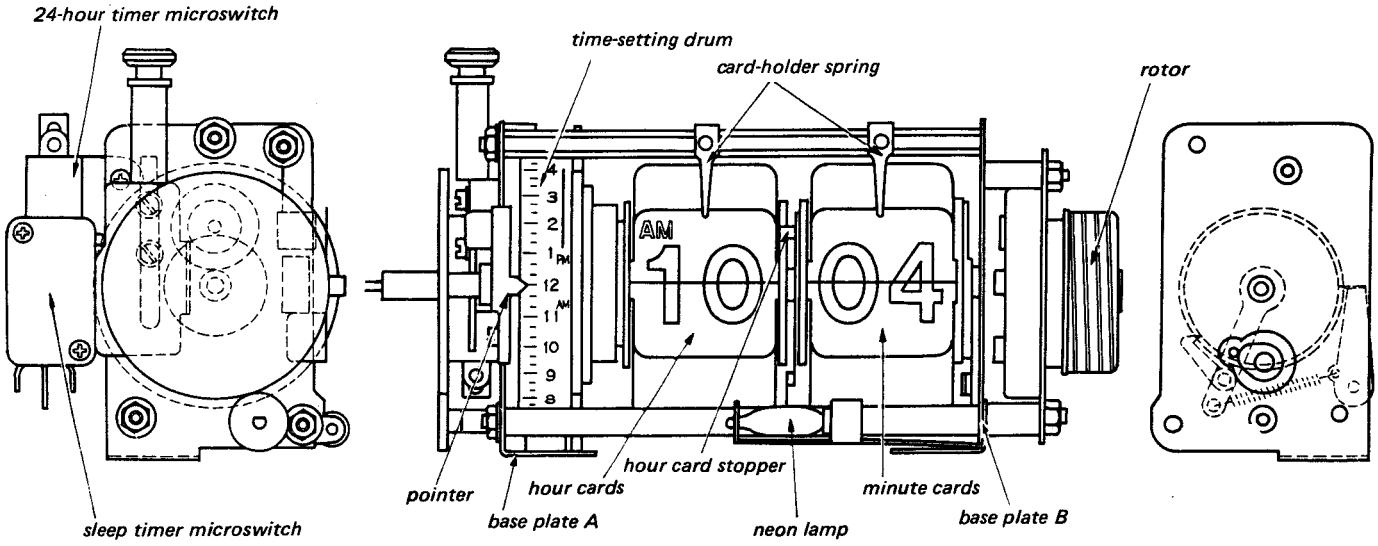


Fig. 8-1 Layout

2. Precautions for Disassembly and Reassembly

Following are the precautional items to be closely adhered to in disassembling and reassembling the clock.

(1) Wear clean gloves so as not to leave fingerprints and/or grease on the clock parts.
(2) Be sure to hold the clock assembly by gripping the base plates (A) and (B) when removing or reinstalling the clock assembly.
(3) Do not touch the rotor of the motor when handling the clock assembly.
(4) Do not touch the hour and minute cards, hour card stopper, card-holder spring and pointer.
(5) Be careful not to give any blow to the rotor and pointer when removing or reinstalling the clock assembly.
(6) When installing the clock assembly to the Cabinet, tighten its attaching screws uniformly.

3. Motor Assembly Replacement

(1) Remove two hex nuts (together with plain washers), securing the motor to the bosses. Now, the motor can be removed from the clock assembly.
(2) Install a new motor in place with its rotor side facing outside, and secure it by tightening the hex nuts good and hard.

NOTES: 1) When installing the motor, keep its lead wires lifted upward.
2) Check to make sure that the cam of the motor is properly positioned with respect to the driven pin of the minute count lever.

(3) Apply an adequate amount of screw locking agent to the hex nuts to prevent the possibility of loosening them.

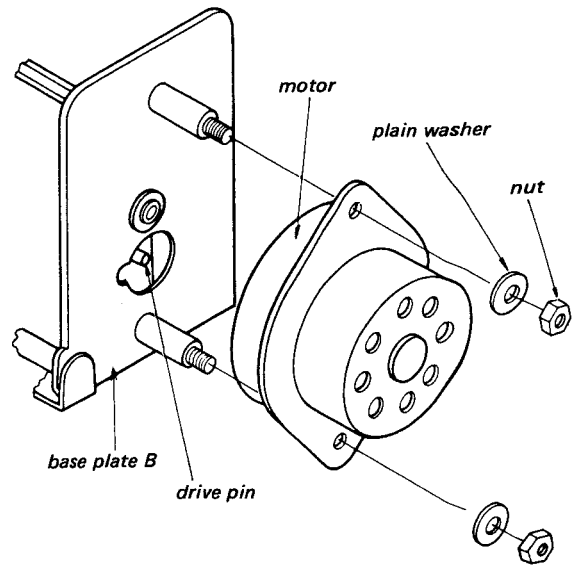


Fig. 8-2 Motor removal

4. Neon Lamp Replacement

(1) The lamp can be removed from the clock assembly by straightening its clamp.

(2) Install a new neon lamp in place by inserting its tip into the hole provided in the support plate. Then, bend up the clamp against the lamp for securing.

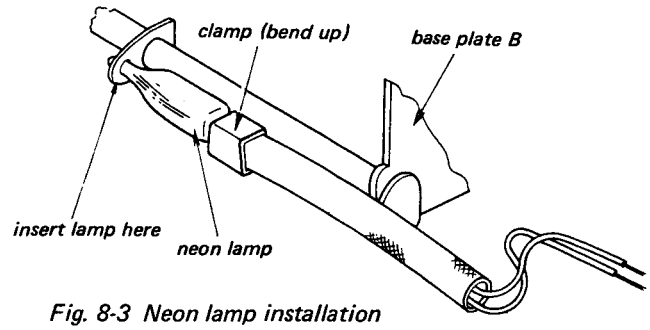


Fig. 8-3 Neon lamp installation

5. Microswitch Replacement

(1) 24-hour timer microswitch

This microswitch can be removed for replacement by removing two attaching screws, upper and lower, as shown in Fig. 8-4. The upper attaching screw is used to secure the microswitch lever shaft also. It is, therefore, necessary to see, upon installing a new switch, if the microswitch lever is properly installed in place.

Check the microswitch operation in the following manner:

a) Finger-rotate the time-setting drum counterclockwise (as viewed from the knob gear side of the clock), making sure that the switch button (red) is depressed by the spring-loaded microswitch lever when the clutch cam is engaged (moved toward the drum).

b) With the clutch cam kept in engaged position, finger-lift the microswitch lever and release it to see if the lever is spring-returned to depress the switch button properly.

c) Make sure that the microswitch is turned off when the clutch cam is disengaged (moved away from the drum).

Repeat the operation as in Steps a) through c) above at four equal intervals of time setting to make sure that the switch properly operated.

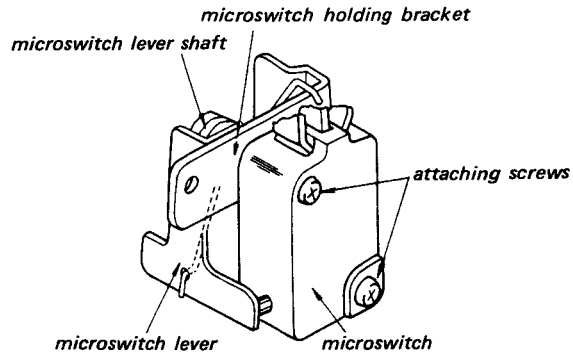


Fig. 8-4 24-hour timer microswitch installation

(2) Sleep timer microswitch

This microswitch, like the 24-hour timer switch, can easily be removed by removing two attaching screws then it has to be replaced. Upon installing, check the switch for proper operation. The switch must be turned on when the rack is pulled upward, and vice versa. The left-hand edge of the rack is profiled to control the switch button. The rack disengages from the 3rd gear to drop by itself, releasing the switch button (red) when the button is on the half-way of the beveled edge of the rack on its downward stroke. Remember that if the switch is positioned too close to the rack when installed, the force for pulling up the rack will be increased.

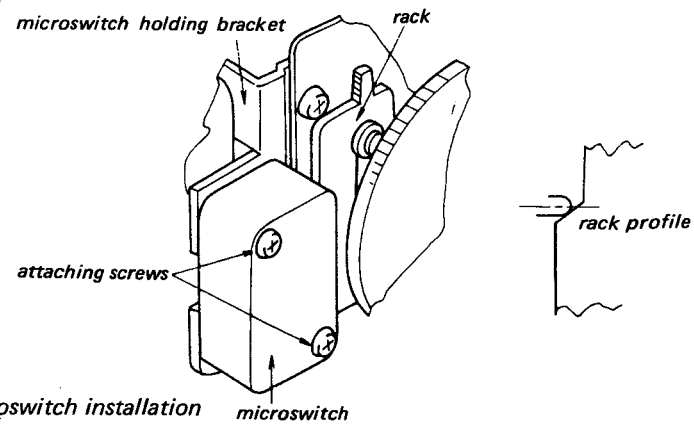
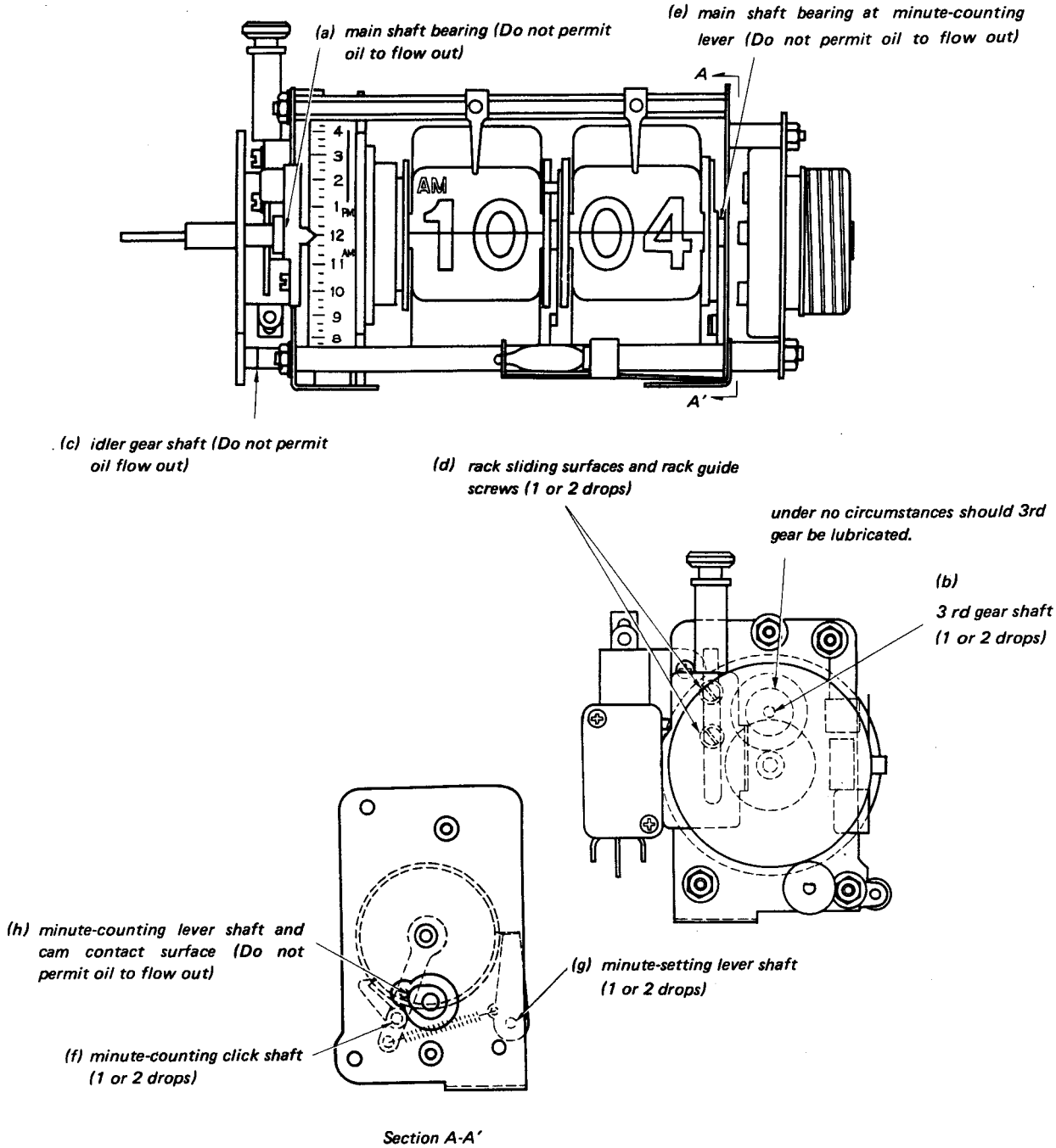


Fig. 8-5 Sleep timer microswitch installation

6. Lubrication Guide for Clock Assembly


(a) main shaft bearing (Do not permit oil to flow out)
(e) main shaft bearing at minute-counting lever (Do not permit oil to flow out)
A
A'
AM
10 04
(c) idler gear shaft (Do not permit oil flow out)
(d) rack sliding surfaces and rack guide screws (1 or 2 drops)
under no circumstances should 3rd gear be lubricated.
(b)
3 rd gear shaft
(1 or 2 drops)
(h) minute-counting lever shaft and cam contact surface (Do not permit oil to flow out)
(g) minute-setting lever shaft
(1 or 2 drops)
(f) minute-counting click shaft
(1 or 2 drops)

Section A-A'

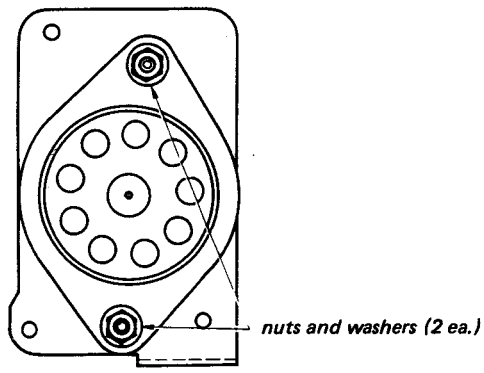
Notes:

1) Only oils equivalent to LAUNA 40 must be selected for use in lubricating. "LAUNA 40" provides a viscosity index of about 130 and an SAE viscosity rating of 5 ± 0.2 W at 98.90°C (210°F).

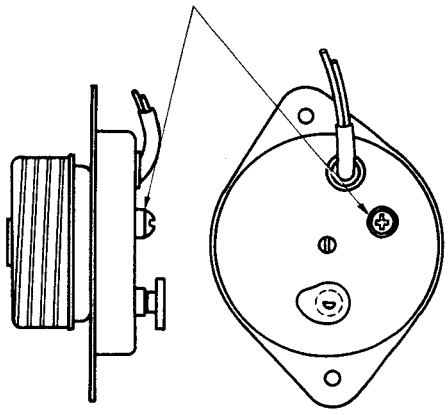
2) Lubricating points must be serviced more than once a year form the standpoint of safety rule.

7. Lubrication Guide for Motor Assembly

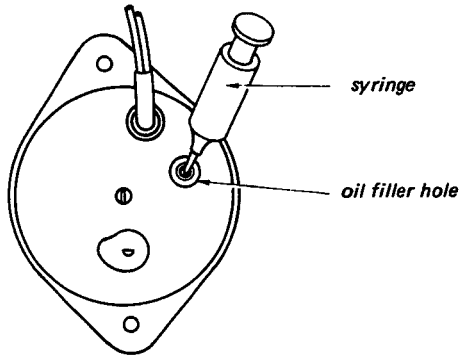
(1) Remove motor by removing these two nuts.



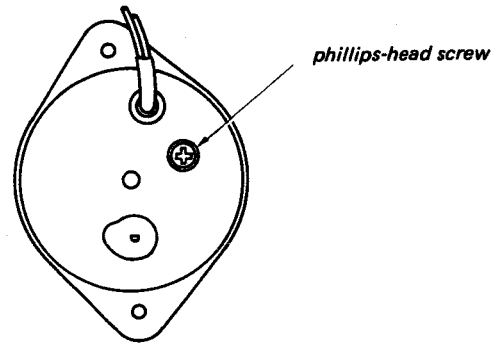
(2) Remove the Phillips-head screw at oil filler as shown.



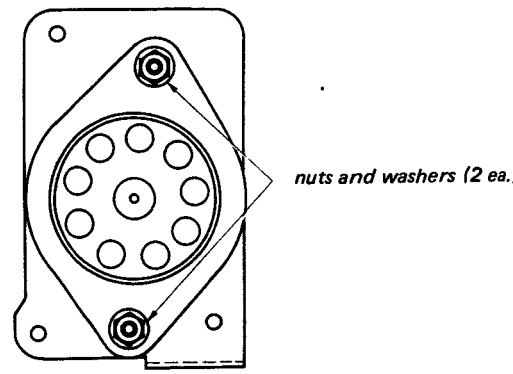
(3) Fill motor with 0.1 or 0.15 cc oil through oil filler hole by using a brush or syrings.

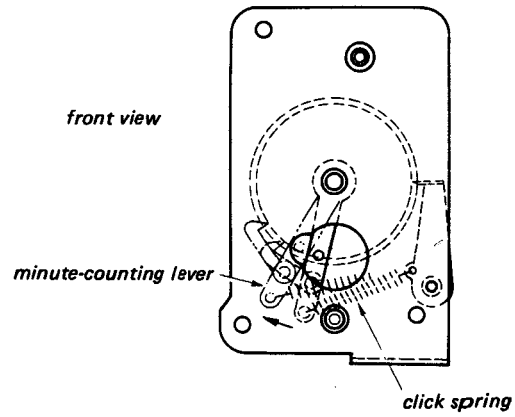


(4) Upon filling with oil, re-install Phillips-head screw, tightening it securely.
(If possible, apply sealing agent to screw head to prevent oil from evaporating).

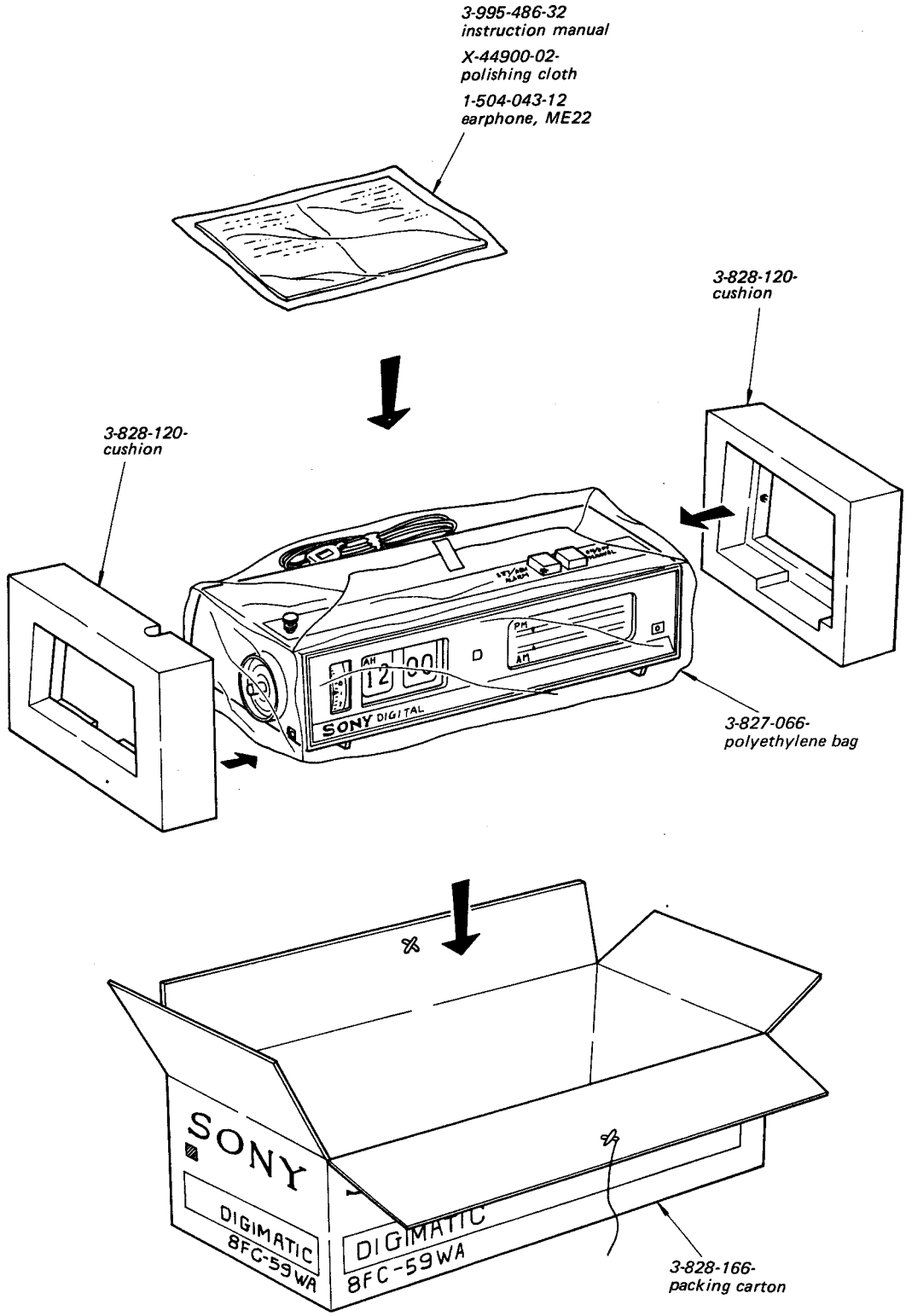


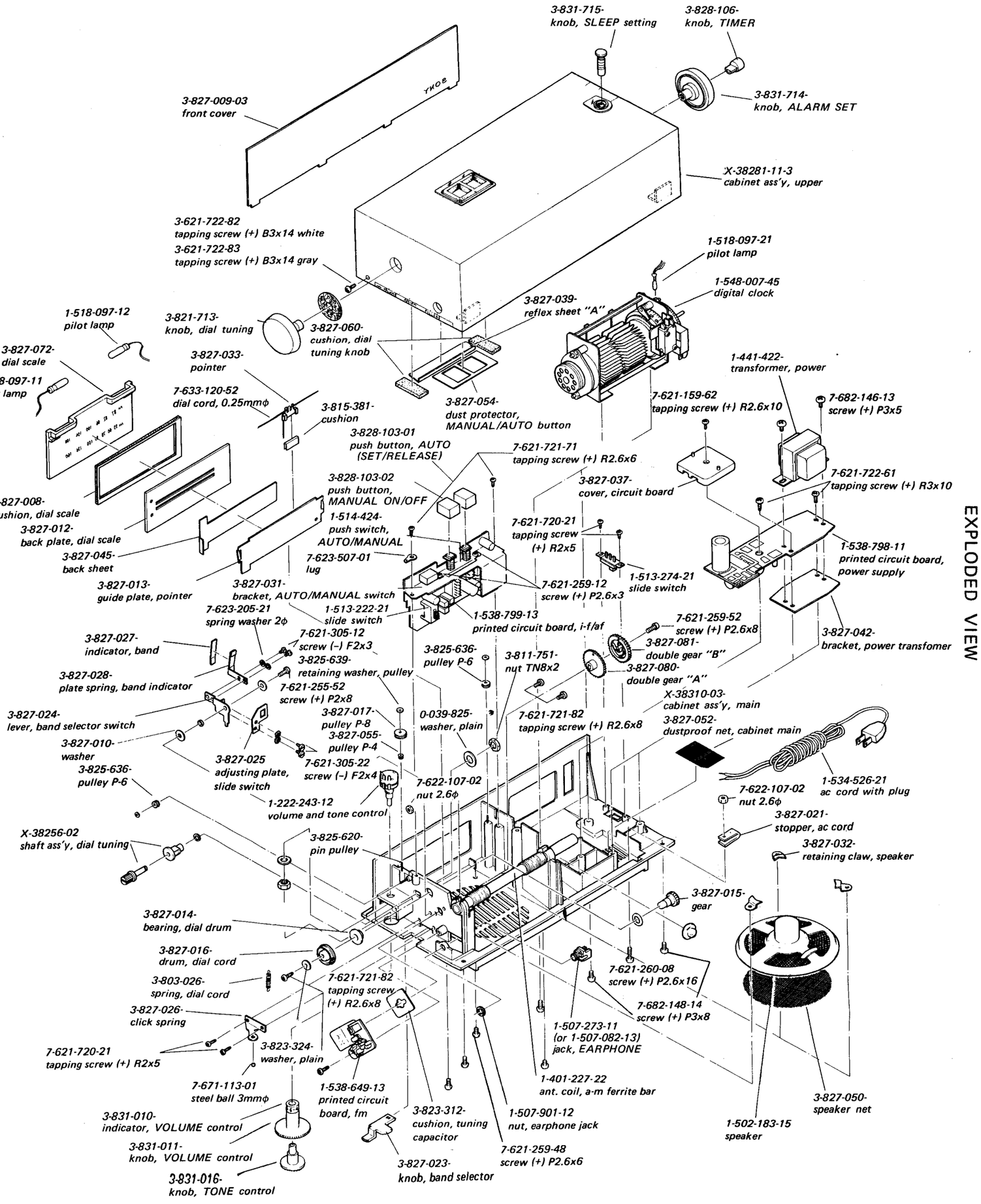
(5) When installing the motor on the base plate, it is necessary to keep the minute-counting lever pushed toward the front side of clock. After installing the motor make sure that the lever is properly installed, and tighten the mounting nuts securely.





PACKING


3-995-486-32
instruction manual
X-44900-02-
polishing cloth
1-504-043-12
earphone, ME22
3-828-120-
cushion
3-828-120-
cushion
SONY DIGITAL
3-827-066-
polyethylene bag
SONY
DIGIMATIC
8FC-59WA
DIGIMATIC
8FC-59WA
3-828-166-
packing carton


3-831-715-
knob, SLEEP setting
3-828-106-
knob, TIMER
3-831-714-
knob, ALARM SET
3-827-009-03
front cover
X-38281-11-3
cabinet ass'y, upper
3-621-722-82
tapping screw (+) B3x14 white
3-621-722-83
tapping screw (+) B3x14 gray
1-518-097-21
pilot lamp
1-548-007-45
digital clock
3-827-039-
reflex sheet "A"
1-518-097-12
pilot lamp
3-821-713-
knob, dial tuning
3-827-060-
cushion, dial
tuning knob
3-827-072-
dial scale
3-827-033-
pointer
1-518-097-11
pilot lamp
7-633-120-52
dial cord, 0.25mmϕ
3-815-381-
cushion
3-827-054-
dust protector,
MANUAL/AUTO button
1-441-422-
transformer, power
7-621-159-62
tapping screw (+) R2.6x10
7-682-146-13
screw (+) P3x5
3-828-103-01
push button, AUTO
(SET/RELEASE)
7-621-721-71
tapping screw (+) R2.6x6
3-827-037-
cover, circuit board
7-621-722-61
tapping screw (+) R3x10
3-828-103-02
push button,
MANUAL ON/OFF
3-827-008-
cushion, dial scale
1-514-424-
push switch,
AUTO/MANUAL
7-621-720-21
tapping screw
(+) R2x5
3-827-012-
back plate, dial scale
7-623-507-01
lug
1-538-798-11
printed circuit board,
power supply
3-827-045-
back sheet
3-827-013-
guide plate, pointer
3-827-031-
bracket, AUTO/MANUAL switch
7-621-259-12
screw (+) P2.6x3
1-513-274-21
slide switch
7-623-205-21
spring washer 2ϕ
1-513-222-21
slide switch
1-538-799-13
printed circuit board, i-f/af
7-621-259-52
screw (+) P2.6x8
3-827-042-
bracket, power transfomer
3-827-027-
indicator, band
7-621-305-12
screw (-) F2x3
3-825-639-
retaining washer, pulley
3-825-636-
pulley P-6
3-811-751-
nut TN8x2
3-827-081-
double gear "B"
3-827-028-
plate spring, band indicator
7-621-255-52
screw (+) P2x8
3-827-080-
double gear "A"
X-38310-03-
cabinet ass'y, main
3-827-024-
lever, band selector switch
3-827-017-
pulley P-8
0-039-825-
washer, plain
7-621-721-82
tapping screw (+) R2.6x8
3-827-052-
dustproof net, cabinet main
3-827-010-
washer
3-827-055-
pulley P-4
3-827-025
adjusting plate,
slide switch
7-621-305-22
screw (-) F2x4
3-825-636-
pulley P-6
7-622-107-02
nut 2.6ϕ
1-534-526-21
ac cord with plug
1-222-243-12
volume and tone control
7-622-107-02
nut 2.6ϕ
3-827-021-
stopper, ac cord
X-38256-02
shaft ass'y, dial tuning
3-825-620-
pin pulley
3-827-032-
retaining claw, speaker
3-827-015-
gear
3-827-014-
bearing, dial drum
3-827-016-
drum, dial cord
7-621-260-08
screw (+) P2.6x16
3-803-026-
spring, dial cord
7-621-721-82
tapping screw
(+) R2.6x8
7-682-148-14
screw (+) P3x8
3-827-026-
click spring
1-507-273-11
(or 1-507-082-13)
jack, EARPHONE
7-621-720-21
tapping screw (+) R2x5
3-823-324-
washer, plain
1-401-227-22
ant. coil, a-m ferrite bar
7-671-113-01
steel ball 3mmϕ
1-538-649-13
printed circuit
board, fm
3-827-050-
speaker net
3-831-010-
indicator, VOLUME control
3-823-312-
cushion, tuning
capacitor
1-507-901-12
nut, earphone jack
1-502-183-15
speaker
3-831-011-
knob, VOLUME control
7-621-259-48
screw (+) P2.6x6
3-827-023-
knob, band selector
3-831-016-
knob, TONE control

ELECTRICAL PARTS LIST

Symbol No.	Part No.	Description
	Semiconductors	
Q101		transistor 2SC629
Q102		2SC629
Q201		2SC403A
Q202		2SC403A
Q203		2SC403A
Q204		2SC633 (2SC870)
Q205		2SB383 (2SB495)
Q206		2SB383 (2SB495)
D101		diode 1T26
D102		1T240
D201		1T26
D202		1T26
D203		1T26
D204		1T23
D301		SD-1Z
D302		SD-1Z
Th201	8-691-001-11	thermistor CS120
	Coils and Transformers	
L101	1-401-228-	ant. coil, fm
L102	1-425-373-	rf coil, fm
L103	1-407-101-	micro inductor
L104	1-405-315-	osc. coil, fm
L201	1-401-227-22	ant. coil, a-m ferrite bar
L202	1-405-306-	osc. coil, a-m
IFT F201	1-403-243-17	transformer, fm i-f
IFT F202	1-403-244-17	transformer, fm i-f
IFT F203	1-403-272-15	discriminator, prim.
IFT F204	1-403-273-15	discriminator, sec.
IFT A201	1-403-163-	ceramic filter, a-m i-f
IFT A202	1-403-128-	transformer, a-m i-f
T201	1-423-064-	transformer, driver
T202	1-427-239-	transformer, output
T301	1-441-422-	transformer, power
	General Electrical Parts	
	Y-38520-11-1	complete tuner FMC-072W1
	1-538-799-13	printed circuit board, i-f/af
	1-538-798-11	printed circuit board, power supply
	1-538-649-13	printed circuit board, fm tuner
DC	1-548-007-45	digital clock
BS201 206	1-513-274-	slide switch, band selector
PS201 206	1-514-274-	push switch, AUTO/MANUAL
SP	1-502-183-15	speaker
J	1-507-273-11	mini-jack, EARPHONE
	(1-507-082-13)	
	1-507-901-12	nut, earphone jack
S1	1-513-222-21	slide switch, BUZZER/RADIO
PL1	1-518-097-11	pilot lamp
PL2	1-518-097-12	pilot lamp
PL3	1-518-097-21	pilot lamp
	1-534-526-21	ac cord with plug
CV1-1～1-4	1-151-149-	capacitor, fm/a-m tuning
	Resistors	
R101	1-244-467-	560Ω ±5% 1/8W carbon
R102	1-244-511-	39kΩ ,, ,, ,,
R103	1-244-457-	220Ω ±10% ,, ,,
R104	1-244-477-	1500Ω ±5% ,, ,,
R105	1-244-515-	56kΩ ,, ,, ,,
R106	1-244-468-	620Ω ±10% ,, ,,
R107	1-244-521-	100kΩ ,, ,, ,,
R108	1-244-438-	36Ω ±10% 1/8W carbon
	1-244-712-	43kΩ ±5% 1/4W ,,
	1-244-713	47kΩ ,, ,, ,,

Symbol No.	Nart No.	Description
*R201	1-244-714-	51kΩ ,, ,, ,,
	1-244-715-	56kΩ ,, ,, ,,
	1-244-716-	62kΩ ,, ,, ,,
R202	1-244-707-	27kΩ ±10% ,, ,,
R203	1-244-715-	56kΩ ,, ,, ,,
R204	1-244-680-	2kΩ ,, ,, ,,
R205	1-244-683-	2.7kΩ ,, ,, ,,
R206	1-244-660-	300Ω ,, ,, ,,
R207	1-244-725-	150kΩ ,, ,, ,,
	1-244-713-	47kΩ ±5% ,, ,,
	1-244-714-	51kΩ ,, ,, ,,
*R208	1-244-715-	56kΩ ,, ,, ,,
	1-244-716-	62kΩ ,, ,, ,,
	1-244-717-	68kΩ ,, ,, ,,
R209	1-244-649-	100Ω ±10% ,, ,,
R210	1-244-684-	3kΩ ,, ,, ,,
R211	1-244-704-	20kΩ ,, ,, ,,
R212	1-244-673-	1kΩ ,, ,, ,,
R213	1-244-684-	3kΩ ,, ,, ,,
R214	1-244-642-	51Ω ,, ,, ,,
R215	1-244-704-	20kΩ ,, ,, ,,
R216	1-244-724-	130kΩ ,, ,, ,,
R217	1-244-665-	470Ω ,, ,, ,,
R218	1-244-657-	220Ω ,, ,, ,,
R219	1-244-673-	1kΩ ,, ,, ,,
R220	1-244-673-	1kΩ ,, ,, ,,
R221	1-244-691-	5600Ω ,, ,, ,,
R222	1-244-691-	5600Ω ,, ,, ,,
R223	1-244-725-	150kΩ ,, ,, ,,
R224	1-244-673-	1kΩ ,, ,, ,,
R255	1-244-680-	2kΩ ,, ,, ,,
R226,227	1-222-243-12	volume and tone control
R228	1-244-632-	20Ω ±10% 1/4W carbon
R229	1-244-656-	200Ω ,, ,, ,,
R230	1-244-698-	11kΩ ,, ,, ,,
	(1-244-702-)	(16kΩ) for 2SC870
R231	1-244-690	5100Ω ±10% 1/4W carbon
R232	1-244-651-	120Ω ,, ,, ,,
R233	1-244-649-	100Ω ,, ,, ,,
R234	1-244-687-	3900Ω ,, ,, ,,
	(1-244-690-)	(5100Ω) for 2SB495
R235	1-244-612-	3Ω ±10% 1/4W carbon
R236	1-244-645-	68Ω ,, ,, ,,
R237	1-244-649-	100Ω ,, ,, ,,
R238	1-244-636-	30Ω ,, ,, ,,
R301	1-244-635-	27Ω ,, ,, ,,
	Capacitors	
C101	1-101-876-	39pF ceramic
C102	1-101-864-	20pF ,,
C103	1-101-918-	0.001μF ,,
C104	1-101-861-	15pF ,,
C105	1-101-956-	6pF ,,
C106	1-101-896-	100pF ,,
C107	1-101-140-	0.005μF ,,
C108	1-101-958-	8pF ,,
C109	– built in i-f transformer –	
C110	1-101-958-	8pF ceramic
C111	1-127-022-	0.5μF 10WV aluminum solid
C112	1-105-821-12	0.001μF mylar
C113	– discarded –	
C114	1-101-140-	0.005μF ceramic
C115	1-101-959-	10pF ,,
C116	1-101-955-	5pF ,,

Symbol No.	Part No.	Description
C117	1-101-919-	0.002μF ceramic
C118	1-101-953-	3pF ,,
C119	1-101-953-	3pF ,,
C201	1-101-918-	0.001μF ,,
C202	1-101-141-	0.01μF ,,
C203	1-101-142-	0.02μF ,,
C204	1-101-951-	1pF ,,
C205	1-105-671-12	0.0068μF mylar
C206	1-103-605-	150pF styrol
C207	1-105-837	0.022μF mylar
C208	– built in i-f transformer –	
C209	– built in i-f transformer –	
C210	1-105-837-12	0.022μF mylar
C211	1-121-398-	10μF 25WV electrolytic
C212	1-101-951-	1pF ceramic
C213	1-101-142-	0.02μF ,,
C214	1-121-398-	10μF 25WV electrolytic
C215	– built in i-f transformer –	
C216	1-101-140-	0.005μF ceramic
C217	1-101-918-	0.001μF ,,
C218	1-101-142-	0.02μF ,,
C219	1-101-951-	1pF ,,
C220	– built in i-f transformer –	

Symbol No.	Part No.	Description
C221	– built in i-f transformer –	
C222	1-121-419-	220μF 6.3WV electrolytic
C223	1-101-142-	0.02μF ceramic
C224	– built in i-f transformer –	
C225	1-105-835-12	0.015μF mylar
C226	1-121-398-	10μF 25WV electrolytic
C227	1-103-658-	200pF styrol
C228	1-103-658-	200pF ,,
C229	– discarded –	
C230	1-121-398-	10μF 25WV electrolytic
C231	1-121-398-	10μF 25WV ,,
C232	1-127-022-	0.5μF 10WV aluminum solid
C233	1-121-419-	220μF 6.3WV electrolytic
C234	1-121-359-	470μF 6.3WV ,,
C235	1-105-687-12	0.15μF mylar
C236	– built in i-f transformer –	
C237	1-101-918-	0.001μF ceramic
C238	1-121-419-	220μF 6.3WV electrolytic
C239	1-105-415-12	0.047μF mylar
C301	1-121-186-	1000μF 16WV electrolytic
C302	1-101-918-	0.001μF ceramic
C303	1-121-398-	10μF 25WV electrolytic
C304	1-121-398-	10μF 25WV ,,

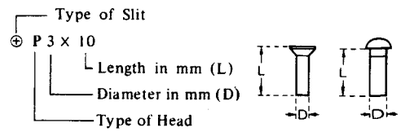
Note: Resistors marked with * are to be selected in value.

—— Hardware Nomenclature ——

P – Pan Head Screw .....
K – Flat Countersunk Head Screw .....
B – Binding Head Screw .....
RK – Oval Countersunk Head Screw .....
T – Truss Head Screw .....
R – Round Head Screw .....
F – Flat Fillister Head Screw .....
SC – Set Screw .....

E – Retaining Ring (E Washer) .....
W – Washer
SW – Spring Washer
LW – Lock Washer
N – Nut

— Example —



When ordering replacement parts, you should use PART NUMBER listed on the parts lists or shown in the exploded view. The symbol number should not be used for ordering purposes.

SONY CORPORATION

0F0624-3

Printed in Japan

SONY®
SERVICE MANUAL

8FC-69WA

SUPPLEMENT

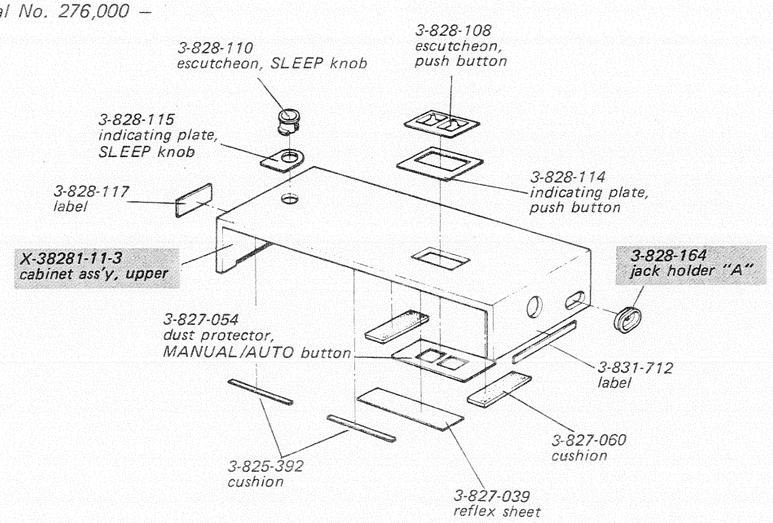
For 230V 50Hz

No. 1
JUNE '70

Applicable Serial No. 276,001 and later
Subject: Minor change of Model 8FC-69WA. Use this supplement referring to the SERVICE MANUAL 8FC-69WA.

1. DETAIL OF UPPER CABINET ASS'Y

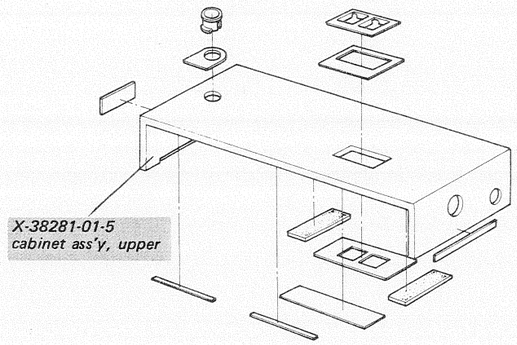
– Up to Serial No. 276,000 –



2. MINOR CHANGE OF UPPER CABINET ASS'Y

– Serial No. 276,001 and later –

1. The jack holder "A" is discarded.
2. The parts No. of upper cabinet ass'y is changed.
   (Former) X-38281-11-3 (New) X-38281-01-5

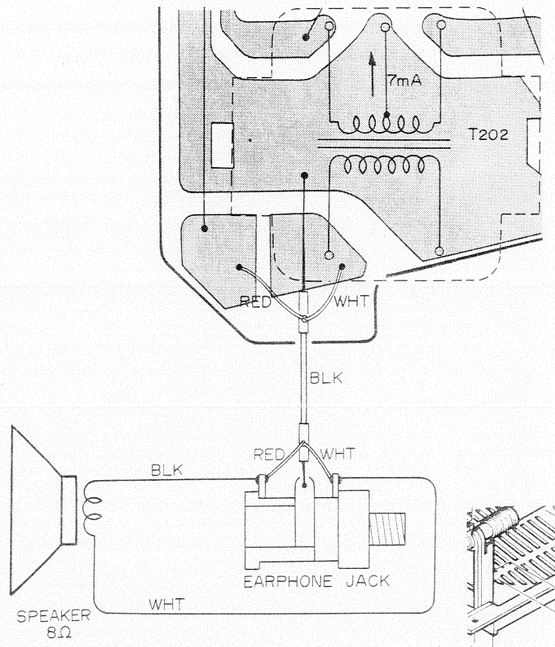


3. CHANGE OF EARPHONE JACK AND OUTPUT TRANSFORMER

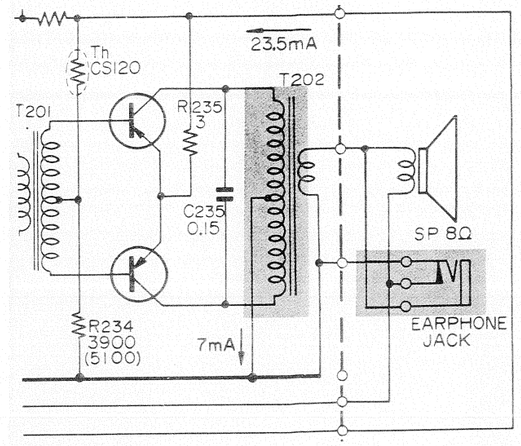
Symbol No.	Description	Parts No. (Up to Serial No. 276,001)	Parts No. (Serial No. 276,001 and later)
J	mini-jack, EARPHONE	1-507-273-11 (1-507-082-13)	1-507-169-13
T202	transformer, output	1-427-239	1-427-227

The schematic diagram, mounting diagram and exploded view are changed as follows.

on page 11 and page 17



on page 14



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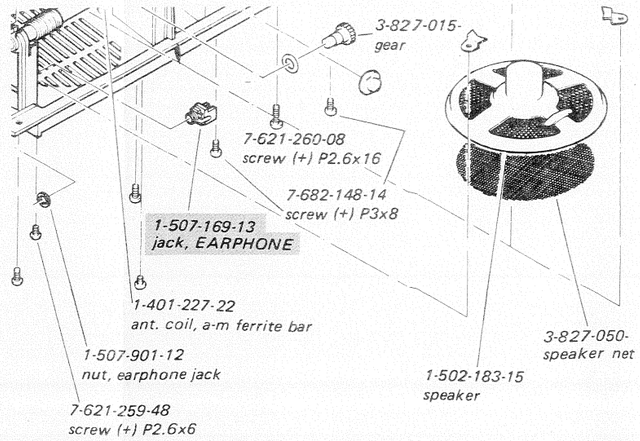

SONY CORPORATION

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Complete Spare Parts List for 8FC-69WA (E)

July, 1969

Part No.	Description	Unit Price
A. Cabinet and Appearance Items		
Y-38317-84-1	Complete Cabinet, including	$3.53
X-38317-11-)	Cabinet Ass'y, main	0.47
X-38281-11-	Cabinet Ass'y, upper	1.94
3-831-709-	Specification Label	0.05
-712-	Label, right side	0.02
3-827-009-03	Front Cover	0.32
-044-	Cover, bottom	0.02
-045-	Back Sheet	0.04
-050-	Dust Cloth, speaker	0.02
-052-	Dust Cloth, cabinet main	0.01
-053-	Cover, front window	0.02
3-831-018-)	Rubber Foot	0.02
3-827-093-		
3-828-127-	Label, left side	0.02
	* * * *	
3-831-011-	Knob, VOL control	0.02
-016-	Knob, TONE control	0.02
-713-	Knob, dial tuning	0.15
-714-	Knob, ALARM SET	0.15
-715-	Knob, SLEEP	0.15
3-827-023-	Knob, band selector	0.04
3-828-103-01	Push Button, AUTO	0.02
-106-	Knob, TIME ADJUST	0.02
103-02	Push Button, MANUAL	0.02
B. Mechanical Parts		
X-38256-02-	Shaft Ass'y, dial tuning	0.11
3-831-010-	Indicator, VOL control	0.02
-017-	Cover, pilot lamp	0.02
0-039-825-	Washer, plain	0.01
3-803-026-	Spring, dial cord	0.01
3-823-312-	Cushion, tuning capacitor	0.01
3-811-751-02	Nut, TN 8 x 2 (P=0.5)	0.02

Part No.	Description	Unit Price
3-815-380-04	Stopper, VOL control knob	$0.01
-381-	Cushion	0.01
3-823-324-11	Washer, plain	0.01
3-825-392-	Cushion	0.01
-620-	Pin, pulley	0.01
-636-	Pulley P-6	0.01
-639-	Retaining Washer, pulley	0.01
3-827-008-	Cushion, dial scale	0.04
-010-	Washer	0.01
-012-	Back Plate, dial scale	0.11
-013-	Guide Plate, pointer	0.05
-014-	Bearing, drum	0.02
-015-	Gear	0.02
-016-	Dial Drum	0.04
-017-	Pulley P-8	0.01
-022-	Pin, pulley	0.01
-024-	Lever, band selector	0.04
-025-	Adjusting Plate, slide switch	0.01
-026-	Click Spring	0.03
-027-	Band Indicator	0.02
-031-	Bracket, AUTO/MANUAL switch	0.04
-032-	Retainer, speaker	0.02
-033-	Pointer	0.08
-037-	Cover, circuit board	0.02
-038-	Spring, knob	0.02
-039-	Reflex Sheet "A"	0.01
-040-	Ornamental Plate, dial tuning knob	0.02
-041-	Ornamental Plate, alarm knob	0.04
-042-	Bracket, power transformer	0.03
-046-	Collar	0.02
-054-	Dust Cloty, push button	0.01
-055-	Pulley P-4	0.01
-059-	Washer	0.01
-060-	Cushion	0.01
-068-	Terminal Strip	0.01
-080-	Double Gear "A"	0.03
-081-	Double Gear "B"	0.03
-086-	Heat Sink	0.01
-072-	Dial Scale	0.09
-087-	Cord Stopper	0.02
3-830-221-	Illuminator	0.02
3-828-108-	Bushing, main switch button	0.03
-109-	Ornamental Washer	0.03

Part No.	Description		Unit Price
3-828-110-	Bushing, sleep setter		$0.02
-113-	Washer		0.01
-114-	Indicating Plate, main switch button		0.04
-115-	Indicating Plate, sleep setter		
-164-	Holder "A", jack		
3-827-028-	Spring Plate, band indicator		0.03

C. Electrical Parts

1-538-799-13	Printed Circuit Board, i-f/af		0.14
1-513-274-	Slide Switch		0.21
1-514-424-	Push Switch		0.40
1-534-526-12	AC Card with Plug		0.31
1-502-183-	Speaker		0.42
1-507-082-13	Mini Jack		
1-538-798-11	Printed Circuit Board, power		0.11
1-513-222-21	Slide Switch		0.09
1-518-097-11	Pilot Lamp		0.10
-12	Pilot Lamp		0.10
-21	Pilot Lamp		0.12
1-548-007-45	Digital Clock		
Y-38520-11-1	Complete Tuner, FMC-072W1		2.65
1-538-649-13	Printed Circuit Board, fm		0.04

Coil and Transformer

1-401-227-	Ant. Coil, a-m ferrite bar	L201	0.29
-228-	Ant. Coil, fm	L101	0.02
1-403-242-	Transformer, fm i-f	IFTF101	0.14
-128-	Transformer, am i-f		0.09
-163-	Ceramic Filter		0.19
-243-17	Transformer, fm i-f	IFTF201	0.13
-244-17	Transformer, fm i-f	IFTF202	0.13
-272-15	Discriminator (Prim.)	IFTF203	0.13
-273-15	Discriminator (Sec.)	IFTF204	0.13
1-405-306-	Osc. Coil, a-m	L202	0.11
-315-	Osc. Coil, fm	L104	0.05
1-407-343-	Micro Inductor	L301,302	0.04
-101-	Micro Inductor	L103,105	0.06
1-423-064-	Transformer, driver	T201	0.17
1-425-373-	RF Coil, fm	L102	0.06

Part No.	Description			Unit Price
1-427-239-	Transformer, output		T202 ----------	
1-441-422-	Transformer, power		T301 ----------	
	Variable Capacitor			
1-151-149-	Capacitor, fm/a-m tuning ----------			0.85
	Potentiometer			
1-222-243-	Volume and Tone Controls ----------			0.45
	Semiconductor			
	Transistor 2SC629		Q101,102 ----------	0.25
	" 2SC403A		Q201,202,203 ----------	0.11
	" 2SC633-7		Q204 ----------	0.14
	" 2SB383		Q205,206 ----------	0.18
	Diode 1T26		D201,202,203,101 -------	0.05
	" 1T23		D204 ----------	0.05
	" 1T240-3		D102 ----------	0.07
	" SD-14		D301 ----------	0.17
8-691-001-11	Thermistor CS120		Th201 ----------	0.05
	Carbon Resistor (RD1/8SR)			
1-244-438-	R108	36Ω	±10% ----------	0.02
-457-	R103	220Ω	" ----------	0.02
-467-	R101	560Ω	±5% ----------	0.02
-477-	R104	1.5kΩ	" ----------	0.02
-511-	R102	39kΩ	" ----------	0.02
-515-	R105	56kΩ	" ----------	0.02
-521-	R107	100kΩ	±10% ----------	0.02
	Carbon Resistor (RD1/4SR)			
1-244-612-	R255	3Ω	±10% ----------	0.02
-635-	R301	27Ω	" ----------	0.02
-642-	R214	51Ω	" ----------	0.02
-649-	R209,233,237	100Ω	" ----------	0.02
-651-	R232	120Ω	" ----------	0.02
-656-	R229	200Ω	" ----------	0.02
-632-	R228	20Ω	" ----------	0.02
-645-	R236	68Ω	" ----------	0.02

Part No.	Description				Unit Price
1-244-657-	R218	220Ω	±10%	----------	$0.02
-660-	R206	300Ω	"	----------	0.02
-665-	R217	470Ω	"	----------	0.02
-673-	R212,219,220, 224	1kΩ	"	----------	0.02
-675-	R236	1.2kΩ	"	----------	0.02
-680-	R204,225	2kΩ	"	----------	0.02
-683-	R205	2.7kΩ	"	----------	0.02
-684-	R210,213	3kΩ	"	----------	0.02
-687-	R234	3.9kΩ	"	----------	0.02
-690-	R231	5.1kΩ	"	----------	0.02
-691-	R221,222	5.6kΩ	"	----------	0.02
-698-	R280	11kΩ	"	----------	0.02
-704-	R211,215	20kΩ	"	----------	0.02
-707-	R202	27kΩ	"	----------	0.02
-715-	R203	56kΩ	"	----------	0.02
-724-	R216	130kΩ	"	----------	0.02
-725-	R207,223	150kΩ	"	----------	0.02
-632-	R228	20Ω	"	----------	0.02
-712-	R201 (to be selected)	43kΩ	±5%	----------	0.02
-713-		47kΩ	"	----------	0.02
-714-		51kΩ	"	----------	0.02
-715-		56kΩ	"	----------	0.02
-716-		62kΩ	"	----------	0.02
-713-	R208 (to be selected)	47kΩ	"	----------	0.02
-714-		51kΩ	"	----------	0.02
-715-		56kΩ	"	----------	0.02
-716-		62kΩ	"	----------	0.02
-717-		68kΩ	"	----------	0.02
	Ceramic Capacitor				
1-101-951-	C204,212,219	1pF	±0.5pF	----------	0.02
-953-	C118	3pF	"	----------	0.02
-955-	C116	5pF	"	----------	0.02
-956-	C105	6pF	"	----------	0.02
-958-	C108,110	8pF	"	----------	0.02
-959-	C115	10pF	±5%	----------	0.02
-861-	C104	15pF	"	----------	0.02
-864-	C108	20pF	"	----------	0.02
-876-	C101	39pF	"	----------	0.02
-896-	C106	100pF	"	----------	0.02
-918-	C201,217,237, 103	0.001μF	+80%	-20% ----------	0.02

Part No.	Description		Unit Price
D. Screw, Nut & Washer			(per 100)
	Screw, machine		
7-621-139-42	(+) R 2.6 x 6	(for Tuning Capacitor) ----------	$0.22/100
-255-52	(+) P 2 x 8	(for Lever) ----------	0.19/100
-259-12	(+) P 2.6 x 3	(for Slide Switch) ----------	0.21/100
-48	(+) P 2.6 x 6	(for Speaker) ----------	0.53/100
-52	(+) P 2.6 x 8	(for Double Gear) ----------	0.26/100
-260-08	(+) P 2.6 x 16	(for Cord Stopper) ----------	0.66/100
7-682-147-13	(+) P 3 x 6	(for Power Transformer) ----------	0.26/100
-148-14	(+) P 3 x 8	(for Cabinet Upper, Digital Clock) ----------	0.57/100
7-621-305-12	(-) F 2 x 3	(for Spring Plate, Adjusting Plate) ----------	0.16/100
	Screw, self tapping		
7-621-720-21	(+) R 2 x 5	(for Click Spring, Slide Switch) -	0.30/100
-721-71	(+) R 2.6 x 6	(for Printed Circuit Board, Main Switch Bracket) ----------	0.30/100
-82	(+) R 2.6 x 8	(for Bear, Printed Circuit Board)-	0.30/100
-722-61	(+) R 3 x 10	(for Power Supply Board) ----------	0.27/100
-723-17	(+) R 3 x 18	(for Cabinet Upper) ----------	0.85/100
	Nut		
7-622-105-02	2ϕ	(for Lever) ----------	0.20/100
-107-02	2.6ϕ	(for Cord Stopper) ----------	0.27/100
	Washer, plain		
7-623-105-11	2ϕ (Middle)	(for Lever) ----------	0.07/100
	Washer, spring		
7-623-205-11	2ϕ	(for Spring Plate) ----------	0.05/100
	Washer, lock		
7-623-405-01	2ϕ (Ext. Tooth) ----------		0.17/100

Part No.	Description		Unit Price
	Lug		
7-623-507-01	2.6ϕ		$0.12/100
-508-01	3ϕ		0.13/100
	Eyelet		
7-623-609-01	1.5 x 2	(for Dial Cord)	0.05/100
	Steel Ball		
7-671-113-01	3ϕ		0.26/100
	Dial Cord		
7-633-120-52	0.25ϕ	650mm	0.02/m

E. Attached Items

3-993-005-31	Antenna Tag	0.02
3-998-901-	Serial No. Label	0.01
X-44900-02-	Polishing Cloth	0.03
1-504-043-12	Earphone ME-22	0.17
3-995-486-11	Instruction Manual	0.06
3-828-166-	Packing Carton	0.20
-167-	Master C rton 6 sets	0.37
3-828-120-	Cushion	0.08
3-827-066-	Polyethylene Bag	0.02
3-828-168-	Spacer, lower	0.04